DOCUMENT RESUME

ED 040 604 24 EM 008 296

AUTHOR	Margolin, Joseph B.
TITLE	Analysis of the Need for and Feasibility of More Effective Distribution of Government-Supported Non-Written Material. Final Report.
INSTITUTION	George Washington Univ., Washington, D.C.
SPONS AGENCY	Office of Education (DHEW), Washington, D.C. Bureau of Research.
BUREAU NO	BR-8-0716
PUB DATE	Apr 70
CONTRACT	OEC-000716-4457(016)
NOTE	295p.
EDRS PRICE	EDRS Price MF-$1.25 HC-$14.85
DESCRIPTORS	*Educational Technology, *Information Dissemination

ABSTRACT

Covering the dissemination of non-print educational media in American education, this report reviews the current condition of the dissemination of non-print materials in education; provides an enhanced understanding of that system, assesses the problems and opportunities provided by current conditions in educational dissemination; analyzes the policy issues facing participants in the system and alternatives; and establishes requirements for an effective system and recommends methods for its improvement. (Author/SP)

ED040604

U.S. DEPARTMENT OF HEALTH, EDUCATION
& WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

Educational Policy Group
Program of Policy Studies in Science and Technology

Final Report
of

ANALYSIS OF THE NEED FOR AND FEASIBILITY OF MORE EFFECTIVE DISTRIBUTION OF GOVERNMENT-SUPPORTED NON-WRITTEN MATERIAL

Joseph B. Margolin, Ph.D.
Principal Investigator

April 1970

The George Washington University
Washington, D.C.

EM008296

ED0 40604

ANALYSIS OF THE NEED FOR AND FEASIBILITY OF MORE EFFECTIVE DISTRIBUTION OF GOVERNMENT-SUPPORTED NON-WRITTEN MATERIAL

Submitted By:

Dr. Joseph B. Margolin,
Principal Investigator

Project Officer:

Thomas Clemens

Professional Staff:

Phyllis L. McDonald

Marion R. Misch

Kathryn S. Hensley

Isolde Weinberg

Mary Elizabeth McIlvane

Jenny Johnson

Helen Ajay

Karen Bell

Linda Taylor

Senior Consultants and Collaborators:

Clarence Danhof

Louis Mayo

C.R. Carpenter

Margaret Moss

Charles Stewart

OEC 000716 4457(016)

Acknowledgments

The authors are indebted to Mr. Thomas Clemens of the Research and Utilization Branch of the U. S. Office of Education, who has encouraged and assisted this project and furthered the development of systematic planning for the dissemination of non-print educational materials; to Dr. Lee Burchinal, Acting Assistant Commissioner of the Office of Information Dissemination, Mr. Richard A. Elmendorf of the Research and Utilization Branch and Dr. James J. McPherson of the Management Review Center who provided invaluable assistance in the initiation and implementation of the research;

To Vice President Louis H. Mayo of The George Washington University, Director of the Program of Policy Studies in Science and Technology who extended the encouragement and support needed to complete this task.

We must particularly thank those senior consultants from education and related fields who provided us with the benefit of their experience and perspective.

We are grateful to the many people in the U.S. Office of Education, in state departments of education, school districts, universities, in government, industry, foundations and non-profit organizations who willingly contributed their time and made the depth and scope of this research possible.

We also wish to thank Mrs. Susan Hart and Mr. Calvin S. Hannum of the Office of Sponsored Research, The George Washington University, for their guidance; Miss Karen Bell for her untiring assistance.

TABLE OF CONTENTS

Introduction . . . . 1.
An Overview of the System. . . . . 3.
The Research Methodology . . . . 12.

The Public Sector

USOE - Its Relationship to the Dissemination Process . . 19.
Field Installations and Large Regional Agencies Supported by USOE . . . . 26.
Other Government Agencies . . . . 35.
The Costs of Dissemination . . . . 45.
State Education Agencies . . . . 51.
School Districts . . . . 74.
Media Problems in Individual Schools . . . . 82.

The Private Sector

Non-Print Industry . . . . 89.
Industry-Laboratory Interface . . . . 101.
Industry- Office of Education Interface . . . . 109.
Marketing Research . . . . 112.

Dissemination and Utilization

The Intellectual Dissemination of Audiovisual Materials . . . . 123.
The Dissemination System from the User's Point of View . . . . 139.
Utilization . . . . 154.
Training . . . . 158.
Universities and Media . . . . 180.
Ownership of Materials and Copyright . . . . 185.
Economic and Political Factors . . . . 198.

Recommendations

A Pattern of Recommendations and Alternatives . . . . . 209.
Need Assessment and Information Unit . . . . 219.
A National Program of Comprehensive State Educational Dissemination Systems . . . . 230.
A National System of AV Materials Information Storage and Retrieval . . . . 234.
Requirements and Recommendations for the Improvement of the Dissemination of Non-Print Educational Materials . . . . 235.
Epilogue . . . . 240.

Appendices

List of Organizations Contacted . . . . 241.
Summary of Population Sampled. . . . . 245.
Data Bank Code System . . . . 248.
Inventory Form . . . . 250.
Interview Schedules . . . . 252.
Bibliography . . . . 275.

Introduction

This report on the dissemination of non-print educational media in American Education is intended

1. to review the current condition of the dissemination of non-print materials in Education;
2. to provide an enhanced understanding of that system, including the characteristics and needs of those who use it as well as the dynamics of the system;
3. to assess the problems and opportunities provided by current conditions in educational dissemination;
4. to analyze the policy issues facing participants in the system and alternatives;
5. to establish the requirements for an effective system and to recommend methods for its improvement.

Definitions and an early hypothetical conceptualization of the dissemination system was provided in the proposal to the USOE (June 1968). A statement of the design and method to be used was detailed in the same proposal and restated in updated and revised form in the interim report of February 1969.

To have said at the outset of this study that the system of dissemination of non-print materials in American education was ailing would have been a major understatement. As was indicated in the proposal, no coherent or organized system exists and the elements operate in an often uncertain relationship to each other.

For example, the impact of a sizeable portion of the research and development activity invested by USOE in the non-print field is dissipated by slow reporting or permanent storage on back shelves. The movement of materials and techniques from R&D to the classroom is also painfully slow and expensive. The reasons are not simple; they lie principally in the division of responsibility and lack of leadership in an "industry" that has traditionally lacked leadership and organization.

Rather than belabor the errors of the past and the gaps in the system, this research program set about to establish (or determine) the AV dissemination needs of education and of the several subsystems that serve the dissemination of non-print materials to education.

The chapters that follow will describe the situation encountered by the investigators who probed and questioned every level and aspect of the dissemination process. The first chapter is an overview of the dissemination system and its several parts. These include the component parts, public, private, or non-profit, the relationships between the parts (interfaces) and the dynamics of the system. We have also sought to introduce some understanding of the motor forces in the system, the factors that power the flow of ideas, information, materials and assistance.

In each case we have considered the "role players", those who take a part in the drama including those who create, research, distribute, finance, or evaluate the AV materials. But mostly, we have been concerned with those who use them in the school systems. Effective utilization is the ultimate criterion. However, we have defined utilization broadly and while the teacher or student is the final user, it is not unusual for us to consider the curriculum developer, the county library director, etc. as "using" AV materials to achieve his objectives of providing a sound book-non-book balanced curriculum, or of stocking the libraries with adequate supplies of basic materials.

The study has also focussed on critical processes in dissemination and utilization. These include the particularly significant processes of storage and retrieval and of training for retrieval as well as distribution of the information and materials, evaluation, utilization and other essential skills.

System development and system management have not been extensively utilized because the concept of a comprehensive distribution system has been lacking. In addition, federal policy has been slow in exerting leverage to produce a system capable of supporting the traffic born of federal appropriations for R&D, equipment and materials.

Several states have tried to meet this challenge. However, they have either lacked the resources or have been under constraints to meet pressures, both federal and local, that have made the task more difficult. Good state dissemination systems do exist, but even their effectiveness could be improved in the context of an improved federal program.

The review of the system and its elements is designed to isolate and comprehend the problems and the needs of the system as a whole, as well as the nature of its components and dynamics.

Each chapter is self-contained in that it includes a review of a subsystem or element and a set of needs and recommendations frequently presented in the form of a chart. Several chapters are comprised mainly of recommendations. A concluding chapter assembles the recommendations and discusses the characteristics of an improved overall AV dissemination system. It also offers several suggestions for programs of a comprehensive nature designed to link dynamically the now loosely-related aspects of the system.

The report is best considered in the context of the proposal and the interim report which are not repeated for reasons of economy. The sections on methodology and the overview of the system provide some brief orientation to those preliminary materials.

An Overview of the System

To describe the way in which non-print materials are distributed to educators as a "system" is at best wishful thinking. There is no system in the organized or deliberate sense, no "ground rules" that govern its operation and little or no effort to be aware of its nature or improve its effectiveness. The statement will not be belabored. It has been made on a number of occasions in the proposal and in the interim report.

The "system" is made up of a number of essentially unrelated subsystems. These may be governmental, industrial or non-profit. They may involve foundations or hybrid government private entities like the Laboratories.

In the pages that follow, much will be made of the "user". Most of the gatekeepers and role players in the "system" are indeed users of one sort or another, using AV materials to meet the needs of their work.

However, the "system" as we deal with it is basically designed to deliver AV material to play a role in the learning of the student. The role may be supplementary to the teacher, or in close symbiotic support. Nevertheless, its function and hence its objective is to help the student learn. He and the teacher are the ultimate users.

The accompanying chart depicts the general configuration of the "system". Actually, there are at least three systems, each with its own objectives and yet inextricably bound together.

The governmental system, or the public sector, includes those governmental interests associated with education:

The Public Sector

Federal Government

- USOE, including field installations, Regional Offices, etc.
- DOD (dependent schools)
- BIA (educational division)
- NASA, AEC, etc.

State Government

- Departments of Education

Local Government

- City and County School Districts
- Individual Schools

Private Schools

There is some minimal flow of materials from the top to the bottom of this subsystem. In general, however, the Federal government is not a major source of materials for state and local educators. Conversely, little hard information about educational media needs and operations of the local school reaches the Federal level. During the course of this study, many of those interviewed at the school district level or higher professed unawareness that USOE was engaged in R&D leading to the production of AV materials, and even more, did not know that materials were available from the US Government. Thus, communication between remote levels of this system seems less than adequate.

The Private Sector

Most of the audiovisual and other technology-related educational materials used in this country are supplied either by private industry or by the local school system itself. In 1968, roughly 600 million dollars were spent for a wide range of instructional software. (Pre-school through advanced professional education). Motion picture films and filmstrips accounted for more than 80% of this sum. The remainder includes audio tapes, other visuals, etc. It is estimated that it will reach one billion by the early to mid-'70's and two billion by 1980. These estimates do not include projections for new technology or new applications.

Companies that produce hardware generally do not produce and market software educational materials. The former requires heavy capital investment; the latter creativity, ideas, educational skills and sensitivity to the needs of the purchaser. The economics of the equipment market limit it to a few companies with relatively large capital capacity. The character of the software market militates toward fragmentation and individual proprietorship. Trial and error and intuition are common paths to success. Evaluation is subjective and expensive, and packaging, charisma and reputation frequently prevail. Previewing, a makeshift and expensive process, adds to the cost of software. This latter situation is changing under the pressure for superior marketing capability, and cost cutting and more knowledgeable planning are gradually contributing to greater efficiency.

The net result, however, is a small group of relatively efficient, stable companies presenting a fairly broad spectrum of AV materials and a much larger group of small companies and individual proprietorships operating "on a shoe string" and relying on the genius or salesmanship of one or two people. It is likely that as the industry matures, the weaker of these will "shake out" and the better will take their places as established and continuing sources of supply to education.

The relationship of equipment and materials suppliers does not yet seem to have been resolved. It is likely that many questions will remain fluid until the recent competition among media is resolved. At this time, 8 mm film, 16 mm film, 35 mm film, videotape recording and the new development of cassette type and even record type of video recordings offer alternative approaches, each with its own advantages and disadvantages. A period of intense competition may be anticipated in the private sector with government and the school as the prime targets.

Thus the private sector remains flexible yet vulnerable to technological change and innovation and to changes in federal-state-local funding, as well as beset by a low level of efficiency and marginality in some companies. It is dependent for creativity and research on government, the university and the more advanced school districts. Its need for a close relationship with the other sectors is clear.

The Non-Profits and Universities

This "third force" in the media field is dependent on citizen support and government or foundation grants and contracts. This category is not really a sector except insofar as its non-profit yet non-governmental characteristics distinguish it from the other sectors. It is composed of at least three sub-groups including:

1. the foundations, e.g., Ford and Carnegie
2. the universities and satellite research units
3. the professional, educational and interest associations, e.g., NEA, APA, Audubon Society, Red Cross, etc.

A fourth category could be constructed of some non-profit, non-university affiliated groups such as Rand or HUMRRO.

The non-profits, as we will refer to the whole group, serve a supplementary role. They provide motivation and materials that would not be provided by either government or industry. The work of the Wildlife Federation, the B'nai B'rith, and similar groups would be either unprofitable for business or illegal for government.

In addition, universities, as a part of their educational function, turn out research, materials and personnel that are directly or serendipitously of value to education.

The foundations were, until the past decade, the bulwark of support for research and even now they offer a buffer against vagaries of government research financing. They help, in a sense, to maintain an "ever normal granary."

Thus we have included the non-profits because they continue to provide support, leavening, supplement and, in the case of non-profit research corporations and the universities, the laboratory for much of the R&D activity contributing to the development of the educational media.

In addition to the three sectors that comprise the system, our overview would take note of several segments or steps through which the process of developing and producing AV materials must flow. These include:

Need assessment
Investment in objectives
Research and Development
Marketing need assessment
Adaptation to needs
Production
Intellectual dissemination
Physical dissemination
Utilization and training for utilization

It is here that the problems of the dissemination system become more evident. The several steps are sponsored or supported by different agencies.

Need Assessment is the unfortunate stepchild. Opinions concerning what is needed are readily available and generally inaccurate. Many of those who testify to Congress are self-interested or partisan. Proposals for R&D to the funding agencies propound a technique or point of view to which the researcher is partisan. Those well intentioned scientists and educators who evaluate the proposals have little hard data other than their own experience to rely on. Industry, although largely ethical and reliable, is influenced by its own capacities, its own markets and its own shelf materials.

Any overview or intensive view of the system will reveal that other than for a trickle of information brought into OE by state personnel and traveling OE staff, government has little hard data about need and no machinery to collect and assemble it. There is no upward flow of information about user needs or user characteristics.

Industry is a little better off in that its salesmen, field surveys, and other sensors do routinely bring in information about need and user characteristics.

The problem lies in the failure of such information to reach those who support research or those who engage in it.

It is not recommended that R&D be limited to the needs defined but a planful system would devote a fair percentage to established need. In addition, the upward flow of information about user needs and characteristics does establish some bounds or parameters for the work of the researcher or developer.

Thus need assessment should be undertaken at a number of points in the system. At the outset it can help determine broad objectives; prior to adaptation, market research and need assessment are essential guides. Indeed at each step continuing measurement of the needs and characteristics of the users is a primary guide to successful dissemination.

Investment, or the commitment to given objectives is done by the Congress, the Administration or by some decision-making body in industry or the non-profits. The largest part of the investment in R&D is made by government, either OE, DOD or NASA, AEC, Interior, Agriculture, etc. Industry invests a relatively small portion of its budget in R&D, generally preferring to make use of government sponsored, or university or school-system derived ideas.

Research and Development The universities and non-profits do the largest part of the R&D although the experimentation and effort within the school system is an unmeasured resource too close to its ultimate user to be visible.

Adaptation is generally accomplished by industry with further adaptations by school personnel. Much of the products of R&D require adaptation to specific geographical areas, kind of population or level of application. This operation has been a bone of contention between government sponsored R&D and the industrial producer who maintains that completion and testing by the researcher is only the beginning of the task of adaptation to user characteristics and needs.

Production is a relatively uncomplicated process although we have observed the challenge to the producer who would provide a given material to a broad audience equipped with a half dozen incompatible types of equipment.

Intellectual dissemination is usually begun before production, but must continue as long as the material is offered. It may be divided into two sub-categories:

a) dissemination of information about the material, its subject, purpose, medium, and its utilization, etc.
b) information motivating the potential user to acquire and use it appropriately.

The intellectual dissemination process has been divided among information scientists, librarians, industry cataloguers, and AV specialists. At this time a few centers are engaged in careful study of optimal methods for bringing information about materials and their utilization to the consumer and user.

However, no real leadership has emerged and it is sorely needed. It is hoped that the new Bureau of Educational Technology and Library Science and the Office of Information Dissemination of OE will assume the leadership needed.

To this date it has rested with the Library of Congress which accepted the NICEM system. (Further comment is found in the chapter on intellectual dissemination.) The latter method of collecting and disseminating information about media has not been tested or evaluated effectively and was not designed in response to an assessment of the needs and requirements or of the characteristics of the user of the media. Such criteria are sorely needed at this time and will be discussed in a later chapter.

Methods for physical dissemination (delivery) are an essential part of any system. While they were not within the original intent of this study, problems of delivery are so frequently reported in meeting with users that they will be discussed.

Basically there are two methods:

1. direct delivery by mail, truck or hand
2. transmission by communications media - TV, radio, etc.

Direct delivery by vehicle can be effective or it can be expensive, slow and sometimes disabling to the system. The long lag between determination of need and delivery can effectively interfere with utilization. Modes of dealing with this problem include decentralization, rapid delivery and the ultra-rapid electronic methods.

Electronic distribution via television and radio, perhaps augmented by satellite are barely in view both technologically and economically. Yet their advent has much promise for very rapid access to materials by the user. Their discussion is outside of the purview of this study. However, their advent will have much significance for the dissemination of non-print materials.

Decision-making takes place throughout the system. However, the greatest problems seem to reside in the decision making process of the ultimate user, usually the teacher. It is at this point that information and decision-making skills must interact to produce the best choice, or at least a good one. These skills, and explicit guidelines for them, appear to be seriously underdeveloped in large segments of our teaching and curriculum planning population.

Utilization is perhaps the most critical aspect of the dissemination process. If the materials are not well used they will be ineffective and they will either not be used again or will be accepted only with skepticism. Thus the issue of training for utilization is central to the problems of motivation for use and effective use.

The following diagram suggests the relationship of information, decision-making and utilization skills:

(Decision-Making ⟳ Information Sources)

+ Utilization Skills

= Utilization

Role Players and Gatekeepers

At each step on the accompanying diagram there are key actors. Each plays a creative or decision-making role that facilitates or inhibits the flow of materials as well as their quality. Some are government officials, others leaders in industry and others budget staff or educators in our school system.

Because the chain is as strong as its weakest link, this project sought to study as many of the links in the system as possible. In all, 226 were interviewed in depth. Many were interviewed several times. From these interviews, insights were obtained into some of the problems of communication between different levels in the "system".

In view of the absence of any real sense of organization, it is not uncommon for actors in the system to be unaware of each other's existence. Even more frequently, participants in the system are utterly unfamiliar with the objectives, assumptions and capabilities of individuals with whom they interact. For example, government and industry seldom meet to share their common environment and many academic researchers, focussing on content of materials, know little of the teachers and educators for whose use they prepare materials.

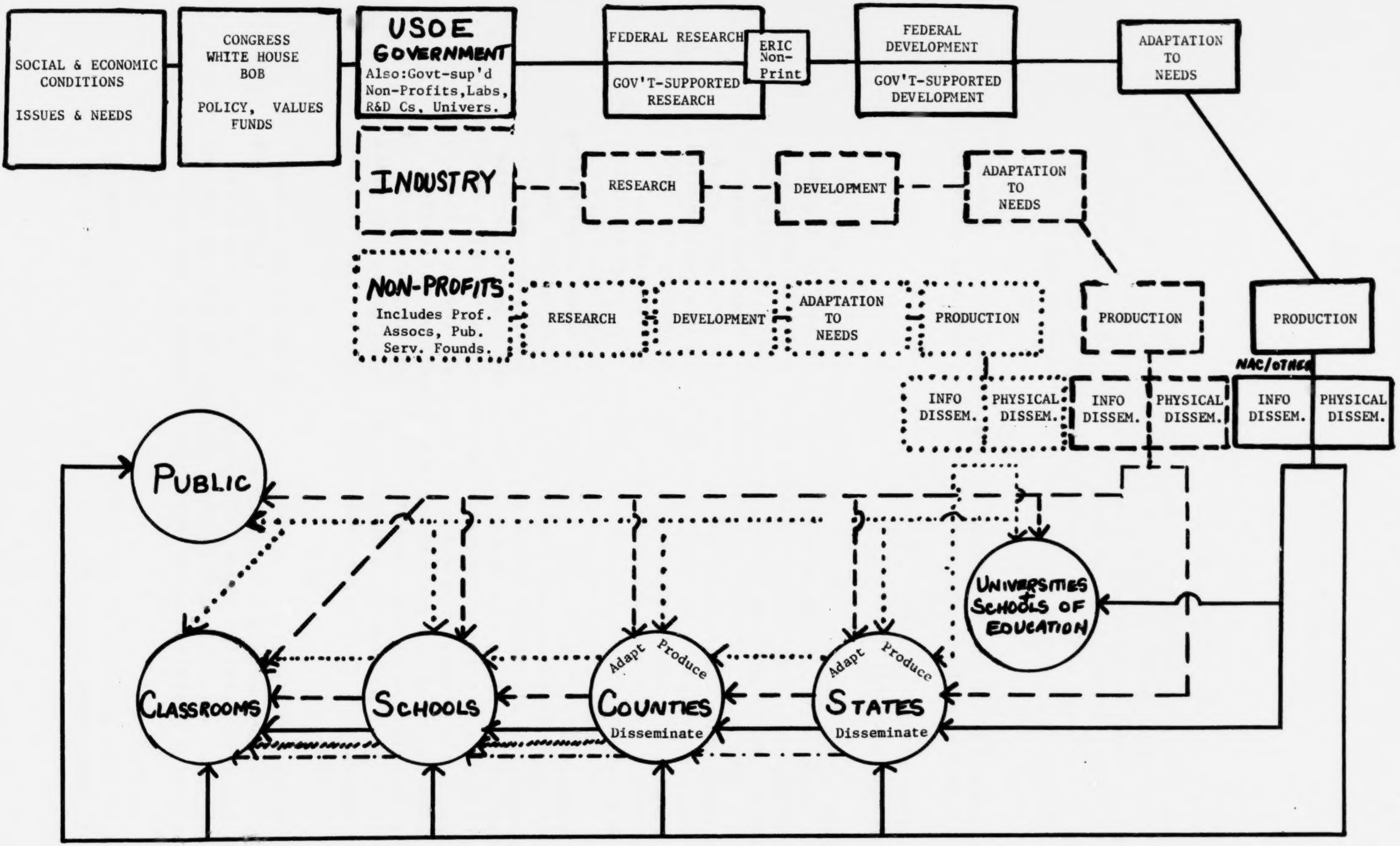
In summary, this is a non-system characterized by poor communication and insufficient leadership. It is a delicately balanced non-system that has managed to get a fair amount of material into the hands of the user. Yet it is operating well below the productivity possible even at current levels of investment. As we will demonstrate, a few relatively inexpensive but perhaps courageous interventions could provide the leverage with which to upgrade the efficiency of dissemination to the benefit of all participants.

The objectives that follow were derived from extensive study of the "system." They provide the bases for most of the recommendations that follow. However, should even the recommended alternatives prove unfeasible we believe that these criteria for an effective program retain their merit and value.

Objectives
for a Dissemination System

1. Improved and appropriate Research and Development (feedback from need assessment)
2. Maximum sensitivity to needs of all users; including intellectual accessibility, cataloguing methods, delivery methods
3. Improved and appropriate standards and criteria
4. Clarity of materials, channels, and presentation
5. Improved and appropriate distribution:
    - intellectual
    - physical
    - motivational
6. Improved and appropriate utilization (training, consultants)
7. Maximum economy

AN OVERVIEW OF THE SYSTEM



The Research Methodology

I. Introduction

The purpose of this chapter is to describe the research process used to conduct the study. While the overall design was presented in the initial proposal to USOE, a number of the specific research procedures were not selected until after pilot exploration. Information gathering and the process of analysis will be discussed separately, although they began almost simultaneously and continued together until the end of the project.

Two basic considerations determined the dimensions of the research, the types of procedures used and the overall nature of the data gathering:

- the nature of the problem
- assumptions and definitions

The Nature of the Problem It was early recognized that the objectives of the study, i.e., to investigate ways to improve the dissemination of government sponsored non-print materials to public schools, presented a highly complex problem involving large numbers of variables identifiable only over time. Only a minimal amount of empirical data, historical and background information and conceptualizations upon which to base the study was available in the literature. The problem required large scale systems conceptualization which entailed examining the many relevant institutions, systems and subsystems with a broad analytic approach seldom attempted in the field of education. The proposal contained an early conceptualization of the dissemination system. This formulation - essentially an hypothesis - defined the system as extending from the decision to influence the non-print media field, to the research process that guided the direction of change, to the development and distribution systems implementing the decision. Thus the character of the distributive process is determined by many events and limits which have been set earlier in the system from which the materials emerge. The problem also included the need for recommendations to improve the system. Consequently, a description of the current "system" was not adequate. It was necessary to collect and evaluate those ideas, experiences and plans - successful and otherwise - that might shed light on how to improve the dissemination process.

Assumptions and Definitions The basic mission as stated in the proposal was to "develop methods for improving the dissemination of, and the effectiveness of information about, the availability of government sponsored, non-written materials and develop alternative methods for increasing the effective distribution of government sponsored non-print materials".

In view of this mandate, it was clear to the researchers that it was necessary to understand the broad setting and context in which any

USOE intervention or program might be undertaken. To do otherwise would be to chance the all too frequent sins of irrelevance, redundancy, unresponsiveness to real need and insensitivity to the ecology of the system that is to be improved. As a result, a broad perspective was sought, to be gained only by surveying the system in its entirety. The mandate also appears to contain the implicit question of whether any given USOE step or activity is the intervention of choice.

A second assumption, and basically the orientation of the research team, is that the crucial elements of any system or subsystem are the participants. A description of the total dissemination process i.e., research, production, distribution and utilization levels, is difficult without an understanding of the forces which motivate the people who establish, maintain, and respond to the system. Therefore, human factors were thoroughly explored throughout all stages of the research.

The term "dissemination", for the purposes of this study, was broadly defined. It was determined at the outset that any dissemination system consists of more than the visible distribution mechanism. That dissemination starts with the creation of the material and continues through production and distribution of materials to the educational system. Beyond that, within each school district, state education agency, etc., an internal dissemination system exists to complete the process. At either end of the distribution subsystem, processes are on-going which contribute to the nature and effectiveness of distribution. The establishment of objectives, research and development influence the nature of the dissemination, and the demands of utilization shape its essential quality.

Definition of "user": Dissemination involves many kinds of people from the state curriculum development specialist to the classroom teacher. Each of the participants along the continuum which is the dissemination system has needs which must be met if the process is to be completed. Thus, the needs of participants throughout the system were explored.

II. Information Gathering

A. The Natural History Phase was designed to provide a conceptual map of the area and situation to be studied. This would assist in focussing on key issues and problems, and lead to formulations designed to deal with them. Its purposes were:

1. To establish parameters for the population of pertinent organizations from which a sample was to be selected.

2. To determine the nature of information which would be needed to satisfy the requirements of the study.

3. To determine individuals in key positions who would most likely be able to supply needed information.

4. Through pilot interviews, to develop and design a set of questions most likely to elicit desired information in the various settings.

5. To develop a repertoire of interview styles appropriate to the variety of circumstances anticipated throughout the course of the research.

6. To develop a more complete understanding of the "ground rules", language and sociology of the educational non-print media field.

7. To begin to refine and modify the early model.

The research operations during this phase included:

1. Review of the literature Literature searches were continued throughout the project with the greatest emphasis during the natural history phase. The search served to identify further key figures in information processing and educational technology, and to provide background for salient issues and systems constructs. Some information describing current conditions was found to be available.

2. Telephone interviews Brief (15-20 minute) telephone interviews were conducted as an effective means of rapidly contacting a large number of organizations to:

   a. determine the value of a subsequent interview and to arrange one if indicated;

   b. obtain information and materials.

Mail contact was used only occasionally since minimum delay between question and response, and voice-to-voice contact were critical to spontaneity in the interview and were found to generate greater willingness on the part of those interviewed to cooperate with the research team.

3. Pilot Interviews Several extended personal interviews were conducted with personnel in the Washington area. These interviews, in addition to serving the objectives of the natural history phase, yielded early data which was added to later, more formal investigations of the same organizations.

4. Consultation Consultants with broad and rich experience in the field were employed during the natural history phase. These were persons whose knowledgeability and whose skill in broad explorations were of assistance in conceptualizing the Gestalts of the dissemination systems.

5. Sample Selection In order to meet the study objectives, the researchers located and studied sample organizations which would offer:

   a. an understanding of the universe of users to formulate criteria and requirements for a USOE system;

   b. an understanding of the total system the USOE might support, supplement or replace;

c. optimal features, methods, and techniques which could be incorporated into the design of a USOE dissemination system.

Organizations were therefore categorized according to:

a. the major types of subsystems which comprise the total dissemination system (government, private, and non-profit);

b. types of key people within organizations with emphasis on policy makers, groups comprising key decision modes, and movers of the system;

c. other pertinent descriptive information such as geographic location, audiences, population characteristics.

The organizations were then classified as very effective in fulfilling their objectives, representative of their class, or relatively ineffective (this type of organization was sought for analysis both to provide understanding of the universe of users and to permit comparative study). The final sample of organizations selected for case study was based on both descriptions of the organizations and an effectiveness rating.

B. Data Gathering Phase

1. Case Study Method: After an examination of the initial data it was decided that the case study method was a most appropriate one. Case study permits an intensive, in-depth investigation of the many variables affecting general process, the interrelatedness of subsystems and the individuals within the system. It also provides an accurate description of surface phenomena.

It was the opinion of the research team that only through the case study of several carefully selected samples could the following research needs be satisfied:

a. an understanding of the internal dynamics of levels of organizations

b. a thorough grasp of users needs at all levels of subsystems

c. full comprehension of the problems and characteristics of the subsystems and its participants

d. interfaces between subsystems.

In the course of the case study, several persons in each organization were interviewed. Further, several types of contacts, e.g. mail, phone, professional meetings, were used to maintain continuous data input about an organization over time.

2. In-Depth Interviews: The personal interview was the most frequently used data gathering technique since it provides a maximum of information.

a. Mail surveys require a large number of initial contacts which frequently result in a small ratio of properly prepared returns, in addition to few returns. Furthermore, a built-in bias exists with mail questionnaires since those choosing to respond are a self-selected group who often share other similar characteristics. During the course of the project, few installations or key personnel and only one school system refused interviewing.

b. The interviewer is available to explain any questions which puzzle or are misinterpreted by the person being interviewed.

c. The interviewer can reshape questions according to the needs or characteristics of the interview, e.g. a group vs. an individual. Frequently, changes have to be made to accommodate the personality, and occasionally the interests of the person being interviewed.

d. The interviewer is present and free to pursue any serendipitous findings, both to enrich the perspective of the researcher and add new dimensions.

e. The interviewer is able to observe individual and group nonverbal behavior, a significant input to objective data analysis.

f. In the case of group interviews, the researcher can gain clues to data interpretation through observation of group interaction.

3. Seminars were conducted on certain highly significant topics which demanded concentrated exploration.* Participants were selected on the basis of interests, type of organization and position in the respective organization.

---

*1. The seminars included ITV as a Sample of a School-wide Dissemination System; June 1969. Participants: Washington County Public Schools, Hagerstown, Maryland.

2. Materials Utilization in the Public Schools. July 1969. Participants: Arlington County Virginia Public Schools; Montgomery County, Maryland Public Schools; Prince Georges County Maryland Public Schools.

3. Dissemination and The State Education Agency. July 1969. Participants: Chiefs of Audio Visual Divisions, State Education Agencies from: Arizona, Nevada , Minnesota, Montana, South Dakota, Oklahoma, Maine.

4. Consultants were contacted frequently throughout the project both to supply information not easily obtainable otherwise, and as resource personnel for discussion concerning the nature and implications of the findings.

5. Professional Activities, such as interagency government meetings of special interest groups, conventions, exhibits, were used at every opportunity to make contacts, solicit information, and enrich the context or content of the findings.

III. Information Procession

A. Since large amounts of heterogeneous information was obtained during the study, a special storage and retrieval system was designed.

1. The Data Bank: The data was stored on the basis of information configurations necessary to the preparation of the final report.
2. Coding System: Each separate datum was codified to facilitate retrieval (see appendix). The codification scheme was based on a systems conceptualization of the problem.

B. Analysis of Data and Derivation of Findings

Overview In view of the objectives of the research and the assumptions upon which the study was based, it was necessary to examine each element of the systems involved in the delivery of non-print materials to the public school classroom. Only through an understanding of the total system could the following questions be answered:

1. Is USOE intervention an intervention of choice?
2. At which points in the system could USOE mediate for improvement?
3. Given the decision that USOE should intervene, how can it most effectively do so in the context of the total existing AV dissemination "system"?

Data Analysis In order to provide a basis for recommendations, data were analysed to make salient the needs and characteristics of present users and systems, the varying contexts into which USOE intervention

---

*4. Information Systems and Bibliographic Standards. August 1969. Participants: Participants of conference, University of Oklahoma, Norman City, Oklahoma.

5. Role of the User in the Dissemination System. September 1969. Participants: Staff of the New York Institute of Technology, New Rochelle New York Public Schools.

must "fit" to ensure improvement rather than counterproductivity, and the needs and characteristics of USOE and USOE affiliates. The data were further analysed for the requirements of ideal dissemination systems, for cues and guides to effective means of satisfying those requirements, and for criteria of effectiveness. Model subsystems were then derived and integrated with these needs and characteristics and requirements to produce recommendations suited to present dissemination realities and to the general goal of improved education.

THE PUBLIC SECTOR

USOE - Its Relationship to the Dissemination Process

The central role of the USOE in the objectives of this study required that considerable effort be devoted to understanding the nature and functioning of the agency. This was not always easy in view of the busy schedule of the key personnel in the Office. However, most attempted to accomodate to our needs and submitted to the sometimes extended interview designed to elicit the needed information.

The Sample included the following USOE units: (then-current organizational headings are used)

1. Office of Public Information, Health Education and Welfare
2. Office of Management Information, USOE
3. Office of Public Information, USOE
4. Office of Information Dissemination
5. The Copyright Program
6. Bureau of Adult Vocational and Library Services
7.   Division of Vocational and Adult Library
8.   Division of Library Services and Educational Facilities

   Bureau of the Handicapped
9.   Division of Educational Services
10.   Division of Research
11. Bureau of Educational Personnel Development
12. Bureau of Elementary and Secondary Education
13.   Division of Program Planning
14.   Program of Analysis Branch

   Bureau of Research
15.   Division of Educational Laboratories
16.   Research and Development Centers Branch
17.   Instructional Materials and Practices Branch
18.   Division of Elementary and Secondary Education
19.   Division of Higher Education Research
20.   Instructional Materials and Practice
21.   Research Training Branch

It is clear from the experience of the researchers and from intensive search of the history and interviews with Office personnel that except for a few dedicated individuals little emphasis has been placed by the USOE on the dissemination of non-print materials. During periods when large allocations were made for R&D and for the purchase of equipment and materials by school districts, little provision was made for the follow-through of the R&D to adaptation and dissemination and even less provision was made for assuring sound utilization.

Further federal spending has been characterized by flows and ebbs that can do nothing but demoralize the educational planner and the teacher.

Titles III and VII of the National Defense Education Act of 1958 were intended to stimulate the use of non-print materials. A basis for future advance was provided under this legislation in the form of the development of several centers of strength and individuals of great capability who were stimulated. However, little systematic planning resulted and while elements of the "System" were strengthened, the system itself did not benefit and dissemination, especially of federally-sponsored materials, was scarcely effected.

The Elementary and Secondary Education Act of 1965 provided massive support for public and private schools. Each title has a significant effect on the non-print media, but again, scarcely enough to justify the massive expenditures.

Title I provided major support for programs affecting educationally-deprived children. A sizeable portion was expended for AV equipment and materials. Little was expended for continuing supply and less for training in effective utilization. Thus the bounty of new technology fell upon teachers who knew little of how to use it and in the main, it was neither appreciated nor used.

Title II (school libraries) provided heavy subsidies. However, improved methods of intellectual dissemination, decision-making and access have lagged. Much of the effort has been directed to archaic library methods and little of it takes account of the systems quality that is essential to effective dissemination. Information systems, until recently, have been characterized by almost complete lack of attention to the psychological or educational characteristics of the intended user of the material. Inquiries about assessment of user needs at professional meetings were met with stony silence or lack of comprehension.

Title IV provides support for research and development activities and has produced a number of organizational innovations. However, it has done little to expedite the flow of materials to educational applications. Because of its potential relevance to the process of dissemination, we have examined Title III somewhat more closely.

Title III - Dissemination Network

As set forth by its Administrative Manual,[1] Title III "is designed to encourage school districts to develop imaginative solutions to educational problems; to utilize research findings; and to create, develop, and make intelligent use of educational centers and services. Primary objectives are to translate the latest knowledge about teaching and learning into widespread educational practice and to create an awareness of new programs and services of high quality that can be incorporated in school programs. Therefore, Title III seeks to (1) encourage the development of innovation, (2) demonstrate worthwhile innovations in educational practice through exemplary programs, and (3) supplement existing programs and facilities."

Built-in to all Title III projects is the requirement that information concerning each program be communicated through publications, opportunities for observation and other methods. State and local education agencies are advised to "consider their dissemination functions in terms of two distinct categories - public information and program dissemination."[2] The larger public is the target audience of the first category, while professional groups, school administrators, PTA's and similar organizations are the focus of the second.

Responsibility for dissemination activities is divided among local grantees, State agencies and USOE. The local Title III project is called upon to supply information about its activities to educators, other professionals and the public within its area of operation. The State educational agency "is responsible for disseminating the results of State Title III program evaluations, for assuring that exemplary and innovative programs within the State receive statewide visibility, and for encouraging the adoption of promising practices by local educational agencies."[3]

USOE has undertaken the following functions in disseminating information on Title III at a national level:

(1) Encouraging the adoption and adaptation of innovative and exemplary programs which hold promise for meeting critical national needs, through publications, films, and conferences;
(2) Conducting regional conferences with the cooperation of local and State educational agencies, universities, and other educational and cultural resources to encourage the development of effective dissemination strategies at all levels; and
(3) Providing for consultation services and workshops in the development of evaluation techniques that assure the production of results which can be effectively disseminated.[4]

In addition, the Division has attempted to develop its repository of materials disseminated by all Title III projects and, in cooperation with ERIC, has published Pacesetters in Innovation, a listing of Title III projects approved during each fiscal year.

One measurement of the effectiveness of this combined dissemination effort is the number of new programs undertaken as a result of Title III projects. In his study of the variables involved in the continuation of Title III programs on the termination of Federal grants, Dr. Norman Hearn established that "as a result of 120 Title III demonstration projects begun during fiscal year 1966, 2,460 similar, new programs were begun by other schools. The mean was 20.4 new programs for each demonstration."[5]

Speaking approvingly of the dissemination system, one Title III State director noted that it enabled a selective, winnowing process. "Many things are done on the local level which have no value outside the immediate circle," she said. "We are all so innundated with information these days, it's no use in proliferating trivia. On the other hand, some material is too sophisticated except for a special audience. Dissemination has got to be selective."

Another state level Title III director felt that for dissemination to be meaningful, it must arouse interest through emphasis on an unusual technique or, preferably, through personal involvement, in a meeting or discussion. "Circulating written reports is almost worthless," the director said.

The above conclusions of field personnel should be taken into account in mounting any major dissemination effort. To be successful, a dissemination program must include a winnowing process or evaluative function for sorting the relevant from the trivial. Without such selectivity, dissemination channels will be choked quickly with the useless and the humdrum and the user will become distrustful or oblivious to this source of information and materials. At the same time, a new dissemination network must also aim for personal involvement and training of the user so that valuable content should not be lost amid too large an outpour of the written word.

While these steps constitute a major contribution and are a valuable experiment, they are in danger of being phased out. The program lacks both continuity and a systematic quality. The duration of involvement and its effectiveness in changing the motivation of the user of materials is questionable unless the program is continued. Novelty and interpersonal contact are expensive and short-lived unless they strike a self-interested and motivating chord in the user.

In general, Title III along with the other titles and the residuals of earlier programs lack a comprehensive quality. They frequently appear to be in competition with each other. Coordination has depended on effective state organization which has been present in only a few states. The basic problem, however, lies in the assumption that sufficient improvement can be achieved through improved creativity, relevance and stimulation. These are necessary but they are not sufficient. The machinery and the motivation for delivery and utilization are also essential.

The division of the program into organizations to match the titles of the law may merit re-examination. If it appears that these are the optimal organizational units at the federal level, it may become even more urgent to re-examine the effort devoted to assisting the development of comprehensive programs at the state level (see section on Comprehensive Educational Dissemination programs.)

It would be carrying coals to Newcastle for this study to summarize the reorganization of USOE to the authors of the reorganization. However, some features assume saliency in light of the purpose of this study.

The Office of Information Dissemination, an office with the responsibility and capability to develop an effective dissemination structure, meets a long-existing need. Many of the information-relevant operations described or recommended in this report would seem to be logical functions of the OID.

Nor should the information function be uni-directional. It is recommended that the collection of internal information about new materials, research and development, new programs, etc. be joined with information derived through Regional Offices, Labs and R&D Centers, field trips by staff, etc., dealing with needs, values and activities in the field. Such information can be organized so as to shed light on available resources, materials, techniques, etc. and existing needs of education, trends, likely alternative paths of action and their con-sequences.

1) Such a central repository of information can become the basis for a national non-print information system, increasing the knowledge of and availability of new methods and materials.

2) The materials of policy study are available and should be organized in a manner that makes possible the most informed decision-making by policy-makers at the federal level. Such information should not be limited to the federal level but should be made available to educational decision-makers throughout the country.

In the section on Comprehensive Educational Dissemination programs we will discuss the value of a program to assure communication between federal, state and local systems.

While these foregoing recommendations have relevance to the dissemination of non-print materials, we must come closer to some critical aspects of the federal operation.

Until recently materials produced with government support have not had the necessary outlets or applications on a national level. Where the researcher displayed adequate initiative and where industry did not object to producing materials in the public domain, some dissemination was achieved. However, adequate dissemination of information about new materials has not been undertaken and legal options to protect the risk of the private sectors have not been available.

Indeed the absence of adequate outlets for government-sponsored materials and the paucity of demands for such material is in some way associated with the breakdown in procedures for obtaining information about such materials. This breakdown was aided by the unavailability of adequate or earmarked staff to engage in the "collection function".

Since the onset of this study several steps have been taken:

1) Responsibility for storage and retrieval of information about non-print materials produced with government funds has been vested in the Office of Information Dissemination;

2) A system for prompt and continuous collection of uniform information about government-sponsored materials has been established with cooperation of this staff;

3) Alternatives to the Public Domain policy governing copyright have opened the door to the use of the method that is likely to achieve maximum dissemination.

As a result, few recommendations are made that relate directly to the structure of OID or the Office of Education. Major emphasis has been placed on processes or functions that are needed and at times a mechanism for its implementation has been offered. At the close, a description of the Comprehensive Educational Dissemination system will be provided which will have the potential for including most of the improvements suggested and will provide a vehicle for their implementation.

The OE's roles in the dissemination process fall into major categories:

1. Those effecting the encouragement and funding of research and development activity relevant to the use of non-print media in education;
2. Those effecting ownership of the materials and copyright;
3. Those effecting the organization of the dissemination "system";
4. Those effecting the retrieval and utilization of the material by the eventual user;
5. Those effecting communication within the educational system.

These areas of possible intervention are explored more fully in the chapter on Recommendations.

Summary:

The USOE has invested heavily in Research and Development into the creation and utilization of non-print materials for education. A number of program development methods have been employed following the several titles of the Congressional Acts. While these have been of benefit, the system whereby the research leads to useful products and the dissemination of those products has not been clearly perceived, nor has the USOE entertained or implemented the several options it possesses for improving that flow of materials.

As we have discovered, the USOE has the potential for achieving such an effective system. The realization of that potential will depend on how effectively the tools at hand are used.

Footnotes

1. Administrative Manual for ESEA Title III State Plan Program, Draft, U.S. Office of Education, p. 1.
2. Ibid, p. 39.
3. Ibid, p. 40.
4. Ibid, p. 42.
5. Norman Eugene Hearn, Innovative Educational Programs; A Study of the Influence of Selected Variables Upon Their Continuation Following the Termination of Three-Year ESEA Title III Grants, A Dissertation Submitted to the Faculty of the School of Education of The George Washington University, Washington, D.C., 1969, p. 199.

Field Installations and Large Regional Agencies Supported by USOE

The field installations and regional office network of several Bureaus in the USOE as well as large organizations funded by OE were studied. These installations included Regional Offices, R & D Centers, Regional Labs and Special Education Instructional Materials Centers (SEIMC).

The installations were visited and studied to determine:

1. The role of each as a component in the USOE dissemination system.
2. Needs of each installation which related directly to dissemination of non-print materials.
3. Elements of each which are model systems.
4. Since many of the installations were thought to be a source of non-print materials for USOE, we wanted to know:
    a. what materials are currently available for dissemination
    b. dissemination and related methods in use or latent
    c. system of quality control extant
    d. forces and elements inhibiting or facilitating quality and dissemination.

I. Components of USOE Dissemination System:

R & D Centers: Current Conditions

With a few notable exceptions, R&D Centers consider that the dissemination of curriculum materials is not their responsibility. Neither money nor staff is available to engage in this activity. Further, in some cases, the researcher does not wish to be restricted in his materials design by having to be concerned with readying the materials for dissemination. R&D centers, on occasion are willing to provide for dissemination of a specific product through contracts with commercial firms but are not in a position or interested in engaging in such activity for items from other USOE sources. Their view is that informing the educational world of new materials is not the function of the R&D center since their job description does not include this task. Federal funds are not provided to them for dissemination.

In order for the R&D center to provide communication to state education agencies or other educational sectors good relationships with these sectors are required. These relationships, however, are non-existent, or where they do exist are characterized by hostility or defensiveness. Since centers are generally located within a university setting, other educational installations associate the centers with the aloofness and distance so often encountered in dealings with the university as an institution. Two of the Centers offered a significantly different pattern of communication with a limited number of educational agencies. This limitation was based on resources and optimal size of the communication operation.

Implications: On the basis of evidence available to this study group, it would not appear feasible to attempt to utilize R&D centers operating on current assumptions and resources as switching points or dissemination links in an USOE dissemination system.

Regional Labs: Current Conditions

Despite a philosophical committment to dissemination, many of the lab administrators are of the opinion that if the labs were to engage in extensive dissemination, energies and investments in present activities for which labs are responsible, would be drained from these activities.

The regional labs are concerned with the dissemination of products: 1) within their respective regions for field testing, and evaluation purposes, and 2) in the event a product is developed and ready for mass distribution. (See chapter - Copyright)

This active dissemination, however, is only for those products developed by the individual labs. One director stated that in the event that a unit was to be made responsible for the dissemination of materials developed by other units, competition for funds and status among the units would present problems. In order for the labs to treat all OE materials similarly, additional funding and staff would be required.

Relationships between labs and other sectors of the educational community are frequently excellent. Some labs have developed cooperative relationships with state education agencies, local industry and community leaders for planning and implementation of projects designed to meet needs of the region. One lab has excellent relationships with surrounding school districts and feels it could more effectively disseminate than any industry because of its problem-solving approach and individual attention which the lab offers in the sale of its products. However, this circumstance applies to the unique product of that lab only.

Implication: Under existing circumstances (assumptions, resources) it would not appear feasible to attempt to utilize regional labs as dissemination links except for individual cases of specific self-generated materials. There are two exceptions to this policy:

1. The lab with well-developed local relationships may serve as the nucleus of an Educational Service Center. These policy decisions should be made only after careful need assessment of the region and discussions with lab personnel.
2. One lab has developed a display center and may be able to display
   - a. equipment and materials to industry and education
   - b. public affairs or training materials for parents, students, etc.

Regional Offices: Current Conditions

Personnel in regional offices stated that dissemination of information, particularly public affairs information, was a defined function for their unit. Unfortunately, funds and staff and a satisfactory communication system are not available to successfullly perform this function. One regional office official is operating at the level of personal contact, e.g., phoning personnel at universities and describing functions of USOE pertinent to that university; or single handedly, without a secretary, filling mail requests for materials.

Implications: Since the regional offices are an available resource for dissemination and communication, it is recommended that they be carefully assessed to determine:

a. how and to what extent regional offices could reasonably be expected to perform this function for materials developed through government sponsored research, e.g., what national funds and staff would be required.
b. what types of information or materials could or should be processed through the regional offices.

In addition to their prescribed function of relating to states within their region, the regional offices may be an excellent facility to provide access to small regional industry of materials developed through national research and ready for further development. Regional offices also may be an excellent medium for increased sensitivity to state and local needs. (See chapter-Need Assessment and Information Unit)

Certain qualifying statements which pertain to management and organization must be made regarding regional offices. These considerations apply when adding any new functions to on-going operations within an organization.

Optimal dissemination of materials and information requires an active approach demanding significant levels of effort and creativity. However, it is recognized by management theory that any organization assigned tasks which are 1) structured, orderly, and demanding paper work, e,g., account auditing, report of activities, and 2) tasks characterized by unknown elements yet to be developed, or policy decisions, that organizational energies will be first expended in executing the former task described. Therefore, if regional offices are to assume the responsibility for dissemination of non-print materials, separate staff should be designated to perform the two types of functions described above, or some other mechanism should be offered to assure the performance of less structured, "postponeable", functions.

Additional Functions: Regional Offices, Regional Labs, R&D Centers, SEIMC's

These field installations may easily be in a position to serve as switching points in an information network to explore and understand regional needs. Ways and means of operating will be discussed in the chapter on Need Assessment and Information Units.

Special Education Instructional Materials Centers:

The SEIMC Networks include 14 centers established by the USOE Bureau of the Education of the Handicapped. These 14 centers are located throughout the continental United States.

The SEIMC's cannot reasonably be considered as significant switching points or dissemination links for the total range of USOE materials at the present time.

a. BEH has established these centers to serve the needs of special educators and center resources are invested to achieve that objective.

b. Further, the centers were originally conceived to serve the purpose of impetus to SEA's and LEA's to develop their own instructional materials' centers. When sufficient numbers of local and state SEIMC's were in operation it was the original intent that the national network would cease to exist as IMC's. This policy is currently being revised as user needs are better understood. If the policy decision is made to disband certain units it is entirely possible that the central coordinating unit for a USOE-wide system may wish to negotiate with BEH to assume responibility for the plant of an already established IMC and determine if the unit can be incorporated into the dissemination system planned for that particular region.

II. Needs of Field Installations Directly Related to Dissemination System:

As the USOE field installations were surveyed and analyzed, individual needs which relate to the USOE dissemination system were noted. The needs which emerged clustered about several functions which USOE may wish to develop.

1. Production and distribution of public information materials about the field installations.

Many have had experiences which indicate that the success of, and demand for, their programs frequently depends upon interested parent groups and other public audiences. Some public information materials have already been produced by individual centers and labs but since there are no distribution channels, dissemination is less than adequate. Many installations feel that USOE could fill this need both for production and distribution of public information materials.

2. Information exchange among installations.

Many field units felt their activities would be more efficient and adequate if a mechanism to inform each other of current products were available.

3. Industry-Installations Relationships.

Many field installations would like resource specialists available for the purpose of helping negotiate satisfactory contracts with industry for development, production and/or distribution of products. Centers and labs feel very strongly that the research unit should be able to specify to industry certain requirements for the handling of a product, e.g., such as evaluation at field sites with user, or user-oriented rather than sales-oriented sales personnel. The centers and labs do not have staff or resources to supply the skills needed to negotiate such contracts.

4. Design and Evaluation of Materials.

The proper methods for functions such as evaluation of materials and contacts with the user are crucial to providing the consumer with a product that meets his needs. Some installations would either like central office assistance to help solve design, production and distribution problems or at least an opportunity to exchange experiences with other researchers and developers so that each time a unit is engaged in a new operation the unit will not duplicate the errors already experienced by other units. Strengthening this service at central and regional levels would provide greater confidence to personnel in field installations and probably would facilitate production and distribution of materials through private sectors or government channels as well.

One government agency feels it has developed expertise in the production of materials and offered to make its personnel available for consultation since there are seasonal lags. This kind of sharing of services across government divisions or department where possible may contribute to cost efficiency.

5. Industry-Installations Interface: Communication.

Since the USOE mission is to facilitate the movement of government sponsored non-print materials to public schools, it may be more efficient to disseminate many materials developed through government via channels other than a government system.

There are many indications where industry or a non-profit is able and ready to take the risk, that their dissemination is more thorough and effective than many public channels.

There are two points in the process of design - production of materials at which field installations would like their materials made known to industrialists. 1) Research design: materials which have completed this phase and are in a state of readiness for further development, field testing, production and distribution. 2) Development: those materials which have proceeded through both the research and development phases and are ready for field testing, production and distribution.

Some installations have developed relationships with industry for certain specific highly valued materials. Under consideration here also, however, are those government sponsored materials requiring more attention, e.g., further development or field testing. As an alternative where industrial contracts for material development and distribution are not indicated, it is entirely possible that a USOE dissemination system may develop procedures which provide

a. an information net to indicate when a product is in a state of readiness to proceed to the next phase.
b. procedures to channel these materials to resources within the USOE-ESC networks of field installations to execute the next phase in the research-distribution sequence.

Note: The needs of field installations which relate directly to that of a total USOE dissemination system have been assessed from the viewpoint of designing a total dissemination system. In the design process, while seeking to meet the dissemination needs of a total system, caution must be exercised to maintain the integrity of each of the individual field installations. Therefore in the design of a total system it is recommended that the cooperation of each field installation be enlisted to establish goals to serve as a base for cooperative efforts in executing the several functions of a USOE dissemination system. Further, a centralized information service would maintain the consistent contact between USOE and the several operating units to inform USOE of evolving and changing needs as well as the extent to which the dissemination system is meeting those needs.

III. Model Elements:

Two concepts which form the basis for policy development for several of the USOE installations are highly recommended. These concepts are explained in detail below:

A. Catalytic Role

The Bureau of Education of the Handicapped has established a nationwide network of Instructional Materials Centers. A basic underlying assumption of the IMC Network is that the IMC's in their respective regions are to play a catalytic role in promoting educational change. The relationships of the IMC's to the several educational levels and agencies, e.g., universitites, state education agencies, local education agencies, are designed to stimulate, reinforce and generally serve as impetus to interaction between and within the sectors to establish highly effective services at the grass roots.

By way of contrast the IMC's program could elect to promote change by being highly directive, e.g., attempt to blanket an entire geographic area with a specified service such as providing in-service training to every special educator in a designated region.

1. Planning boundary lines for associate SEIMC's other than geographic (county) which have been found to be unsatisfactory.

2. Contacts with colleges and universities involved in teacher preparation: Pre-service training and special projects. In two universities there is the possibility of the development of specific undergraduate courses about the SEIMC and its functions.

3. Local School Systems:

   a. Information packet describing services available.

   Field staff contact local schools, to identify need for services, (consultant) obtaining reactions to materials, (feedback), explaining and demonstrating SEIMC materials and services, (detailman), provide in-service programs (motivation). Arrange for loan and delivery of services in the school (active intellectual dissemination; this would also be classified as an active physical dissemination system as well).

   b. In-service training

4. Special contacts with residential institutions for handicapped children.

5. Parent groups:

   The SEIMC has established a task force to determine in what ways the SEIMC can serve these groups.

6. Cooperation with other Federal projects: Cooperative contacts have been maintained with all BEH Division of Research projects within the state.

7. Other activities: User reaction form, abstracting of instructional materials, catalog to list all materials in regional centers and many associated centers. The SEIMC's will collaborate with the SEA to ensure that SEA computer system is compatible with that of CEC-ERIC. Monsanto Learning Products Materials will be circulated among associate centers for reaction and field evaluation.

Note: 60 in-service training sessions were held from September to August with local schools, colleges, universities and special school staff. 24 planning and strategy meetings were held, November to July with special schools, professional associations, Title II, Title III, Welfare agencies, state education agency divisions, e.g., music and art, New York state Mental Health Department, Library associations.

B. Regionality:

The regional offices, by and large are committed to the concept that grass roots needs can only be served well be regional installations as opposed to a highly centralized organizational structure. The regional offices maintain that local contact minimizes "noise" in the system. One state department of education supports its position on regionality this way:

> Traditionally, the movement of governmental functions has been based on more effective performance or on increased availability of funds. More recent organizational restructuring has emphasized the location of functions at the lowest level of government possible, moving them upward only if increased effectiveness can be assured. In some instances this may require the acceptance of high costs to assure effective service, rather than lower costs, or may involve the dislocation of functions traditionally associated with certain agencies or institutions. The latter often requires more specific delineation, resulting in the difficult task of separating functions which have been seen as inseparable due to their traditional or organizational proximity.

IV. Field Installations as Source of Non-Print Materials for a USOE Dissemination System:

In the course of this study an attempt to understand the types, kinds and numbers of non-print educational materials developed by field installations and other USOE programs was made.

An inventory form was developed and disseminated to field installations and bureaus in the USOE. The inventory form requested information describing technical and educational characteristics of materials developed through projects supported by the respective unit.

The inventory form, its associated retrieval system and other contractual stipulations for periodic reporting of materials under development would be invaluable to a coordinating office to:

1. apprise USOE of present supply of materials available for dissemination.
2. apprise USOE of nature of future supply of non-print materials available for dissemination.
3. provide information input for policy decisions regarding future grants for development of non-print materials. Information would be in essence a survey of materials available which would then be compared with requests for materials from users, redundancy and gaps would be exposed in the process. (See Appendix: Inventory Form)

Summary and Conclusions

By and large the field installations of the USOE do not presently have the resources which would enable them to serve as switching points in a USOE dissemination system. Exceptions were noted.

The field installations, however, do have several needs which relate to a USOE dissemination system. The rate and effectiveness of the production and distribution of non-print materials would be improved by meeting these needs. Recommendations for USOE interventions designed to serve the field installations are summarized below:

1. Production and distribution of public information materials about the field installations.
2. Information networks among field installations
3. A system of communication between field installations and industry.
4. USOE resource specialists affiliated with NCEM for industrial contract negotiations.
5. USOE resource specialists affiliated with NCEM for the design and evaluation of materials.
6. If OE policy would make the Regional Offices and other regional installations significant factors in the dissemination process, adequate staffing of these centers with media-wise personnel will be required. These people would be sensitive to the evaluation of state AV and media programs and at least would be valuable assets in strengthening state and local programs.

Other Government Agencies

Current Conditions and Implications

Purpose of Government Non-Print Materials

In addition to strictly educational and curricular purposes, a primary purpose for government non-print materials is to inform the public about government services and programs. Other purposes range from training of employees, in-house operational and management analysis, record keeping, a medium for contractor's reporting on projects, and public service to ensure public health and safety.

Although queries to government agencies for AV materials from the educational community outnumber queries from any other group, relatively few of these agencies make an active effort to reach schools. The degree to which agencies aim at educational audiences varies widely. At one extreme is the statement by a senior Public Information Officer that he was shocked at the idea of government agencies disseminating information to schools because the public would consider such information Federal propaganda and intervention. At the other end of the continuum are two agencies which aim almost exclusively at educational audiences with divisions specifically for education and training. (Recent evidence suggests that these programs are avidly sought after.)

Many agencies have non-print materials which are highly applicable to education, regardless of the original purpose of the material. For example, the Job Corps has developed and field tested a wide variety of AV materials for education and vocational guidance in the Job Corps Centers, and to train Job Corps teachers.

The agencies most actively concerned with dissemination to educators tend to be relatively young, defensive in the face of public criticism or controversy, often having a scientific link, and actively involved in future oriented technologies or programs. Invariably the top level management of such agencies support the development and dissemination of non-print materials and believe in their effectiveness.

Planning and Policy-making

One success factor in agencies most effectively disseminating to education is the approval of and orientation to non-print materials by top-level agency executives.

Funds for non-print materials are usually channeled through the agency's Office of Public Affairs and planning is customarily centered in that office. A key to successful planning in the agencies sampled is the coordination of all programs directed toward education and the involvement of a balance of public information officers, media specialists and technicians, subject matter specialists and, if they exist, educational program officers working in the field.

The Media Development Division of the Office of Public Affairs of one agency holds an annual planning conference involving information officers, AV people and educational officers from each field center. They analyze what materials commercial producers have produced and what materials they would be willing to produce; then the agency plans how and what it could contribute to fill the gaps. The plans of the exhibits and print programs are integrated with those of the Media Development Division.

The most unique aspect of this agency's planning is the incorporation of user need assessment information from Educational Programs Officers who are in constant touch with the local educational community. Need assessment by other government agencies is either haphazard or non-existent. At most it may consist of scanty feedback from cards sent out in film cans, from an occasional letter from a user, or from field center staff who have relatively little close contact with local educators.

One policy decision central to successful dissemination pertains to the ratio between funds allocated to R&D and production versus funds allocated to reproduction and dissemination. An Audiovisual Officer stressed that "it takes at least as much money to distribute materials as it does to produce them and if you don't tell people about materials, your effort has been wasted." To get one film out to the public at the time of peak interest this agency spent more money on prints than it did to make the film.

Implications for USOE Program:

Effective programs for dissemination of non-print materials in other agencies suggest that the Office of Education plans should include the coordination of the Public Affairs function with those of Media Development, Dissemination and representatives from the several Bureaus and major programs. Planning should be guided by need assessment, active assessment of available resources currently meeting needs, and evaluation of the effectiveness of existing dissemination. R&D planning, media development, need assessment, information dissemination and material dissemination all need to be inter-related.

The experience of other agencies indicated the need for the Office of Education to support dissemination through the use of funds and operating programs. In R&D budgets, money should be allocated for the dissemination of both resulting materials and information about the materials. In contracts and funding of media-related programs, the Office of Education can where indicated make one of the criteria for receiving funds, the active dissemination of resulting information or products to appropriate users. Certainly the reporting of all potentially useful products or techniques should be required.

Production

Nearly all government agencies with active audiovisual programs have some in-house technical facilities. While some have only a "jack-of-all-trades" who handles all AV service, a few have complete production facilities. Often part of the process is handled by in-house staff and the rest by contract.

Ideas, writing and evaluation during each stage of production may involved public information staff, media specialists, subject-matter experts and educational programs officers.

Quality Control

The several agencies aiming at the educational audience take pains to maintain high technical and educational quality in the materials they disseminate. Even if films are reports from field installations or addenda to research projects rather than specifically produced for education, they are edited and carefully evaluated before being offered to educational collections. Quality control is also applied to contractor's materials. Some agencies provide technical assistance to anyone producing material with their funds.

Coordinating Production with Industry

There are several levels of coordinated planning and cooperation between government producers and industrial producers. In its planning, an agency may simply survey industrial materials to avoid duplication or may actively encourage industry to make films, etc. to meet education's needs. Such agencies frequently provide industry with valuable film footage to work with.

An agency which set out to defuse industry's suspicions of possible competition succeeded in illustrating the mutual benefits to each. First, the agency could fill a gap by producing certain high-risk materials which industry could not afford to produce. Secondly, the agency has effectively created a larger market for industry through its leadership role in providing users with training in the use of non-print materials, through instruction, and R&D which gave users the impetus to reach for materials in greater volume than ever before.

Implications for the Office of Education

To ensure the production of materials having high technical quality, educational quality and educational relevance, the Office of Education would need a system for quality control. Methods for maintaining quality control include:

1) setting up criteria and guidelines for production of materials;
2) monitoring and evaluating OE-funded materials at critical stages of production;

3) providing grantees and contractors with technical assistance;
4) offering R&D products, footage, development and dissemination contracts; copyright and other limited access on condition of successful performance;
5) evaluating final products of OE-funded activity to determine their suitability for dissemination.

The Office of Education may be called upon to delineate for industry its primary role as a producer or as a disseminator and to demonstrate the benefits of a cooperative relationship between the public and the private sectors.

Information Dissemination

Other government agencies employ a variety of methods for disseminating information about their non-print materials. Some simply make their catalogs available on request and issue occasional brochures for special emphasis while others reach educators through directories, journals, press releases, film festivals, conventions, listings of related materials in the speakers' bureau brochures, and by supplementing their mail-outs of catalogs with mobile van or exhibit distribution.

Two agencies especially active in disseminating to education issue 31,500 and 80,000 catalogs, respectively, to a target audience of educators. In addition to the several modes of dissemination mentioned above, teachers are exposed to government materials through television, through mobile exhibit programs and through the educational programs in certain education-oriented agencies.

More recently, government non-print materials have been listed in the National Audiovisual Center Directory, supplementing the catalogs of each agency.

Implications for the Office of Education

To reach specific audiences in education effectively, the Office of Education should supplement its information dissemination through the National Audiovisual Center with a spectrum of other methods specifically responsive to the user's needs and characteristics. Audiences must be analyzed into identifiable and assailable segments; ie. information dissemination must be carefully focused on specific subjects and problems and addressed to a select audience. (See Chapter on Information Technology) Intellectual dissemination by the Office of Education should benefit through the integration of library and information systems, consultation services, training programs and other programs relating to non-print materials and dissemination.

Physical Distribution

Most agencies disseminate non-print materials through sales, free-loan and free-givaway (or "permanent loan"). Few of the agencies sampled rented materials. Sales are handled through a contracted commercial distributor, or more recently, through the National Audiovisual Center. Although some school districts prefer to buy films in order to have them on hand, more free-loan business was done than sales, according to agencies interviewed. Free-loan materials are handled through a variety of distribution channels:

1. Central In-house Distribution

The Department of Agriculture is almost unique in distributing its own films through central in-house facilities rather than a contractor or representative. (The Department of Agriculture also disseminates through selected university and municipal libraries and through a few large-city school board libraries.)

The Bureau of Indian Affairs mails all its materials from a central point to schools under its jurisdiction throughout the U.S.

Two other agencies with active regional distribution to schools said that although they are satisfied with the results of regional distribution, the expense of operating regional libraries thorugh contractors was forcing them to consider centralized distribution. Both said that a centralized in-house library would be less expensive by cutting back the number of prints necessary, but they disagreed about the relative effectiveness of a centralized system. One interviewee contended that whereas a central system would be more cost-efficient, it might not give educational users service comparable to that of regional libraries.

2. Regional Agency Libraries

NASA and AEC both distribute free-loan films through approximately ten regional libraries located in agency field centers. NASA's libraries are run by contractors, whereas some of AEC's libraries (in big cities) are run by contractors and others by in-house staff.

Distribution from these libraries are usually by personal pick-up by the user or by mail.

The AEC Oak Ridge Film Library is unique in having a completely computerized booking system. The computer is used for many other purposes by the entire Oak Ridge Laboratory. It responds to request letters, sends the requestor substitute titles, addresses films for mail-out and checks for delinquent returns of films, writing the offender a stern reminder.

One agency interviewed said that an ideal distribution system would be through an aggressive contractor who had a computerized operation. However, few contractors or even government agencies could affort a computer comparable to the one at Oak Ridge.

3. Contracted Distributors

Many government agencies without regional libraries have handled their materials through commercial distributors. These have usually been found wanting as a result of the passivity of the contractor. The National Audiovisual Center may take over some of their free-loan distribution.

4. Non-Agency Libraries

There is a trend among certain government agencies to supplement their own distribution outlets by giving local libraries films and other materials on indefinite loan. These libraries may be municipal, county, university, school district or Title III libraries. They are selected according to several criteria, including the number of students or other audiences they reach, their ability to maintain the prints, and their promise to give feedback concerning level of usage.

Not only do these local libraries give the educator more immediate access, but they often get far more screenings per print on the average than a regional library serving the same area. The reason for the higher proportion of usage, however, one government man pointed out, could be less due to the localization of the distribution point than to the fact that the local libraries have a few of the very best or most popular government films, whereas the regional library's usage statistics include a wider selection of titles.

5. Television and Radio

Television is an extremely important mode of distribution for some government films. Not only do films reach millions of students and teachers through commercial and educational television, but sales and loans of these films rise after they have been "previewed" on T.V.

6. Mobile Units

The Bureau of Indian Affairs operates one mobile Instructional Materials Center which services an innovative school district. Although other agencies do not deliver materials in vans NASA and AEC distribute catalogs and exhibit films and other non-print material in their mobile exhibit programs.

An indirect dissemination method used by the Department of Agriculture is their county agent network. The 10,000 county agents have first access to films to use in their work before more general dissemination.

Implications for Office of Education

Educators tend to buy films or to borrow them on a free-loan basis; they do not, however, seem to rent films on a wide scale. Alternative bases for disseminating Office of Education materials therefore, might include free-loan, sale, and perhaps lease-toward-future-purchase. As a sales clearinghouse, the National Audiovisual Center may be adequate for Office of Education materials. However, free-loan materials appear to require other modes of dissemination such as other government agencies have used.

To meet the needs of a wide and fragmented audience consisting of different educational levels and agencies and diverse subject matter interest, the experience of other government agencies indicates the effectiveness of regionalized and localized dissemination systems. Although they may be more expensive than a centralized system they seem to meet the needs of local users very well. One cost-effective method of achieving regional and local dissemination would be for the Office of Education to provide existing regional, state and local dissemination agencies with funds, contingent on their meeting certain guidelines and standards. These criteria might include, for example, maintaining a training program, a consultant service, a facilities program, etc. Another plan might establish regional centers either under OE's agencies or that of a government agency cooperative.

When such alternatives are entertained they should be considered in the center of the other functions required of a dissemination and utilization program including training, consultation, user need assessment, etc.

Related Programs and Services

A number of agencies provide their educational users with a variety of services and non-print related programs. Services include teacher-training through educational program officers associated with field installations or through large conferences or seminars. Such training programs have invariably led to increased use of materials.

Several agencies conduct educational programs, but one in particular serves as an example of a good educational consultant program. Each of ten field installations of this particular agency has an Educational Programs Officer who is in constant touch with the local educational community. He acquaints educators with materials, assesses needs, conducts training workshops and serves on educational committees. Teacher training is offered through 1-2 week workshops at the field installations as well as in the field. The Educational Programs Officer is characteristically an ex-teacher and works with state subject-matter supervisors as well as with district-level and local educators.

The Bureau of Indian Affairs has stimulated new interest in non-print materials through teacher-training seminars in the summer, through a travelling IMC and through consultative assistance in setting up local IMC's. The BIA policy for funding non-print or dissemination projects is to subsidize schools which already have basic skills and facilities.

Both NASA and the Atomic Energy Commission have extensive mobile exhibit programs. NASA's 24 vans are distributed among its ten field centers and AEC's 23 vans are dispersed one to a state for a year at a time. The mobile exhibit programs are extremely popular and stimulate educators' interest in other materials the agencies are disseminating. The exhibit serves as a vehicle for showing films and other non-print materials, for information dissemination and for evaluation and feedback. AEC has experimented with a variety of feedback devices, including voting machines for students to respond on subject matter and their general reaction to the exhibit or materials.

An interesting feature of AEC's exhibit program is the fact that each year, more states contract for their own van, thus decreasing the annual cost to AEC. Under a one-year contract, a state provides the exhibitor (a high school teacher) his salary and overhead, and AEC trains him and furnishes the van, the hardware and materials and coordination of the program. The program is regularly evaluated and updated by a university contractor who manages the program for AEC.

Implications for the Office of Education

Training workshops, consultation, personal contacts through educational program officers, and mobile vans all demonstrate their effectiveness in providing users with open channels of communication with government agencies and as stimulating contributors to the Federal dissemination effort.

The cost-effectiveness of sharing expenses with states as AEC has done offers a model for the Office of Education. The state's enthusiasm, however, is dependent upon the quality of Federal materials and services and their relevance to local needs.

Evaluation and Feedback

Most government agencies conduct relatively little evaluation and get scanty feedback on the effectiveness of government non-print materials and their dissemination. Agencies commonly require usage reports from any field installations or other disseminators of their materials. Usage statistics are often dependent on the returns of cards enclosed in film cans when they are sent to the user. Not only do users fail to return the cards, but libraries are frequently slow to respond with these statistics.

In a few cases, agencies have systematically reviewed their educational films through teams of evaluators which included media specialists, public information staff, subject matter specialists and staff from the educational programs division. Dated films are either withdrawn or labelled "historical" and some films may be re-edited or re-catagorized. One agency conducts this review annually.

Besides information from usage statistics, one potentially effective source of feedback on the effectiveness of materials is through educational program officers on the local scene.

Implications for the Office of Education

To maintain "quality control" after production and dissemination and to provide a base for planning, the Office of Education needs a system for evaluating effectiveness of its materials and dissemination system. Personal contact with users, through consultation and training programs, written evaluation forms from select panels of users, seminars and conferences with users and open channels of communication between the Office of Education and disseminators of its materials are all alternative methods for gathering evaluative information.

One variable that appears likely to contribute to user comment and feedback is the extent to which the disseminator appears to value and be responsive to information and opinion provided by the user.

Summary

Although educators are the primary requestors of information and government materials, there is wide variation in the degree to which Federal agencies respond to educators and in their dissemination methods.

There are many reasons why agencies with materials potentially useful to education do not reach educational users. Because some agencies' goals and policies may be directed to other audiences, they may not consider it necessary to make more than a passive effort to disseminate information and materials to education. Often they have neither the money nor the staff to produce or evaluate materials or to organize information specifically for educational use.

The National Audiovisual Center fills several gaps between educators and Federal agencies. For the first time, educators have a central point to inquire about Federal materials and to purchase them. NAC eliminates the frustration of trying to communicate with numerous separate divisions in separate agencies by coordinating information about materials on one subject from diverse agencies.

Although NAC handles some free-loan materials, acts as an information resource to some extent and issues a directory and some brochures, it does not have the staff or the budget to meet the wide range of needs of the educational user.

Supplementing the services of NAC, government agencies most concerned with education are effectively disseminating through other channels.

The Office of Education can benefit from other agencies' success in reaching the local user through regional and local libraries, through an active information network and via mobile vans and consultant services. The success of handling certain aspects of production and dissemination through contracts and the economy of "plugging into" existing libraries and dissemination systems has also been demonstrated by other agencies.

In planning and policy-making, coordination among in-house divisions and representatives from the field maximizes the effectiveness of each program and avoids duplication of effort. Involvement of a functionally-balanced staff, including for example public information officers, media specialists, subject matter experts and educational consultants, provides a system of checks and balances among the interests and emphasis of each faction.

The Office can learn from agencies who have delineated their role to industry and have worked out mutually beneficial cooperation with the private sector.

Although the Office of Education is unique, it could adopt and modify some of the excellent dissemination methods other government agencies have developed and could fill some of the gaps in government dissemination.

The Costs of Dissemination

Early in the program, when alternatives seemed few and simple, the decision was made to determine the costs of several of the interventions that might be suggested.

The data that follows is designed to provide the experience of several government agencies and the costs of a selected sample of government regional film libraries (both contract and agency-administrated, Bureau of the Handicapped SEIMCs, and a variety of Mobile Unit programs. Where information was available, we have included cost breakdowns as well as a brief indication of the facility's scope of operation. Although we tried to obtain figures on the cost of starting programs, they were seldom accessible.

I. Government Regional Film Libraries

A. Contract Regional Film Libraries

1. Government Agency A

a. Scope of Facility (one of ten)

Located in Far West
Serves 4 states, including California
4500 mailings of films annually
(showings data unavailable)

b. Breakdown of Costs

Contractor Fee for mailing, cleaning, handling:	$6750
Postage	1700
Government agency clerk (1/5 of man-year)	1000
Total Annual Cost:	$9450

2. Government Agency B

a. Scope of Program

Ten film libraries run as part of the agency's regional field offices;
Some are contracted, others are agency-administrated, but the cost does not vary significantly;

FY '69 Statistics for entire library program:

Film prints loaned:	80,914
Total showings:	164,897
Audience (excluding TV audience)	8,000,000
Audience (including TV audience	175,000,000 +

b. Breakdown of Costs

Average annual cost of all 10 libraries:	$126,000
Average annual cost per library:	$10-15,000

Includes:
1-2 full-time technicians, clerks
(4-man staff at headquarters library where TV is handled)
Fee to contractor when applicable

B. Agency-Administrated Regional Film Libraries

1. Government Agency A

a. Regional Film Library with Bookings Handled by Computer

1. Scope of Facility

Serves 5 states in Southeast
3670 mailings annually
(Showings statistics not available)

2. Breakdown of Costs

Technicians, Clerks: 1½ man-years; cleaning, booking, etc.	$10,800
Computer (cost for the entire field installation; this cost is $2000 less than the preceding year)	8,000
Total Annual Cost:	$18,000

b. Regional Film Library (no computer)

1. Scope of Facility

Serves 5 states
1415 mailings annually

2. Total Annual Cost: $5230
   Includes:
   Clerk, technicians: 1 man-year
   Mailing, etc.

II. Bureau of the Handicapped Programs

The BEH programs more closely approximate the regional or local educational media centers that are recommended as resources under several alternative dissemination plans. These centers provide consultation, and have physical and training resources unavailable at loan or rental libraries. They are capable of taking the initiative in stimulating programs and in developing or adapting materials.

A. Annual Costs of SEIMC's

1. 13 Regional SEIMCs (National Network)
   Approximate annual cost of each: $250,000
   95-100% Federally funded.

2. Middle-Atlantic Regional SEIMC
   George Washington University
   Serves Maryland, Delaware, Pennsylvania, New Jersey and Washington, D. C.

First year:	$215,000
2nd year:	265,000
3rd year:	300,000

3. Associate SEIMC's

241 have been set up around the U.S. since 1966. They may serve one school district or county, several school districts or larger areas. Associate SEIMC's receive no direct grants from the Federal level; they are state-initiated programs and are usually funded through Title VI or jointly by Title VI and Title III.

Annual costs vary from around $10,000 to $150,000 or $200,000. States such as Iowa, New York, Ohio and Michigan have plans for an intra-state network of SEIMCs and have invested far more than other states.

III. Mobile Units

A. Mobile Exhibit Van Programs

Mobile exhibit vans have emerged in response to the need for flexible, mobile centers capable of extending the range of a limited staff and budget where large or remote areas often with sparse population must be provided for. While costs exceed those of contract centers, the van provides more direct service (although not at the level of an SEIMC), reaches a broader population and is conceived to reach out more aggressively to remote potential users.

It should be noted that while the van is useful in rural or suburban areas, it can be equally useful in urban settings characterized by inadequate facilities and insufficient staff.

As described below many applications of the mobile van have been developed.

1. Government Agency A.

   a. Cost of outfitted van alone: $18,000
      Includes: Dodge Econoliner or similar van; exhibit materials such as generator, audio system, props, audio scaler, P.A. system.

   b. Total annual cost to maintain van: $33,000
      Includes: contractor fee, operating costs, salaries.

   c. Total annual cost of exhibit program (23 vans)

FY '67	$371,000
FY '68	375,000
FY '69	397,000

N.B. This agency runs only six vans entirely on its own funds. The rest of the 23 vans are jointly funded by states, who are taking over more of the vans every year. Under a one-year contract with this agency, a state provides the exhibit person, his salary and overhead expenses and the agency provides the hardware, training and coordination. Each year the number of vans the agency funds completely decreases and although they continue to add new vans to the program, their costs are greatly decreasing.

B. Instructional Mobile Units

1. Mobile Educational Technology Program, Baltimore County, Maryland (Title III ESEA: Teacher Training Media Unit)

   Phase I ('67-'68)
   6 Media Specialists, 1 Resource Teacher

1 fully-equipped mobile unit: $156,000
Reached 24 schools, 823 teachers (Federal funds)

Phase II ('68-'69)
2 more staff members
1 librarian
1 additional Resource Teacher

Reached 35 schools,	Federal Funds	$273,710
1,566 teachers	Local Funds	63,010
		$336,720

Phase III ('69-'70)
2 Mobile Units operating
2 more Media Specialists
1 Graphic Artist-Photographer
Reached 38 schools, 1,850 teachers

Federal Funds	$214,514
Local Funds	199,849
	$414,363

2. West Virginia Mobile Classroom

To provide background knowledge and experience with media (teacher training)

Initial Costs:

Combination of Title V and Title II funds:

Cost of unit:	$10,000
Cost of Materials:	20,000
	$30,000

3. Webster County, West Virginia

4 Mobile Labs
  - 2 Reading
  - 1 Science
  - 1 Health-Social Studies
    - Annual Cost: $116,170
    - 4 Teachers, 4 Teacher-Aides
    - Reached 2,319 Students, 90 teachers.

4. Dade County Florida

5 Re-conditioned School Buses for Remedial Reading $159,852
15 Teachers; 1 Secretary; 1 Project Manager
Reached 600 Students

5. Rochester, New Hampshire

2 Mobile Units for supplemental help in reading and math:

4 Teachers	Title I:	$42,000
	City:	2,400
	Annual Cost:	$44,400

6. Chicago, Illinois

4 Centers, each comprised of 6 Mobile Units for Pre-School and Parent Education	$605,000

Determining the cost of the more complex and variable programs outlined in the text is not within the resources of this study. Nor could a useful estimate be obtained. The wide range of settings and program alternatives would demand a major economic and accounting effort.

The estimates provided above suggest that each of the techniques described has the potential for effective application as a basic element or as a supplement to existing or projected programs. The flexibility of the mobile unit and the sensitivity and resourcefulness of the community-centered agency in particular recommend them highly.

State Education Agencies

State Education Agencies are charged with the responsibility for the "general supervision of education." The interpretation and implementation of the responsibility varies widely from state to state. This diversity of organization and attitude has innumerable implications for the design, development and implementation of a dissemination system for the transmission of government-sponsored non-print educational materials.

Overview of the Chapter:

Part I is a discussion and illustration of the variations in, and present conditions of, State Education Agencies as these characteristics relate to dissemination.

Part II is a presentation of the methods currently being used by SEA's to solve problems relating to the dissemination of non-print materials.

Part III is a discussion of some of the major problems existing in the SEA's of which USOE should be aware for adequate program planning with the SEA's for the development of a state-wide dissemination system.

Part I: Variations among State Education Agencies and Present Conditions.

Variation and differences were encountered among SEA's to such a degree that each appeared to have a personality of its own. These differing characteristics as related to dissemination systems are:

a. administrative structures
b. goals and objectives: including policy and decision-making, attitudes, organizational approaches and problem-solving techniques
c. level of effort in relation to financing, personnel available, and facilities.

a. Administrative Structures:

Many of the administrative or organizational differences in SEA's are the result of several interacting factors: the time in history when the audiovisual division was established, the source of funding and legal basis of the respective division, political climate, the theoretical viewpoint of its designers, and the size of the SEA.

To illustrate this variation: one state has established its Division of Educational Communications within the Bureau of Cultural Education. The audiovisual division is separate and removed administratively from that division of the SEA directly involved in elementary and secondary education. This administrative plan exists despite the fact that the primary objective of the audiovisual division is the promotion of the use of media in public education. One might wonder if this seemingly illogical structure which must certainly inhibit communications and cooperation between the two related divisions was the result of the late arrival of audiovisual instruction to education. (See Advanced SEA: Case I) In a second state, the educational communications division is a statutory body created by the legislature of that state, separate from SEA. As a result of its legal basis, the state communications agency is ineligible to receive federal funds to carry out its responsibility for the use and dissemination of non-print educational materials for that state.

Several larger states have recently added to their administrative structure, an overall planning and coordinating unit. As SEA's increase in size with concommitant funding to broaden their range of activities, offices and divisions begin duplicating services and ultimately reach a condition in which several divisions of the SEA have established dissemination networks to many of the same target audiences. This situation is a problem for several reasons. The SEA is functioning with decreasing efficiency and thereby creating a situation in which the user also is operating with ever decreasing efficiency and effectiveness. An audience group assailed by several disjointed, uncoordinated information sources soon becomes confused and is uncertain which to probe to meet needs which arise. Further, isolated divisions which find that they are competing with each other, tend to develop an organizational paranoia. When distrust, suspicion, and dread exist between government divisions or bureaus, cooperative efforts across divisions become nearly impossible.

Planning and coordination offices are attempts to unite several divisions with similar objectives in dissemination and program activities into working, cooperating units for unification of effort with increased effectiveness. Planning offices, such as the one described above, are often added after an SEA has been functioning for many years. As a result, implementation problems are, at times, overwhelming. (See Chapter Need Assessment and Information (Unit, Section Advanced SEA.)

b. Goals and Objectives:

SEA's appear to differ in their goals and objectives and methods of achieving these objectives.

One small SEA in its original inception had as its objective the role of consultant to local school districts and individual schools. Recently, when federal funding became available, this agency

2

went through a metamorphosis and now aspires to be a regulatory agency; as one staff member expressed it, "a police force."

A second somewhat small state arrogantly stated that local educational planning in that particular state was by and large under the control of the SEA since the SEA provided 60% of the monies for education at the local level.

One large state takes the opposite approach and has as its objective that of being a leader in education for the state. Leadership and directions for change are provided in the form of such indirect means as a handbook for educational communication, or an annual state-wide meeting for local and state educators interested in audiovisual materials and communications.

Clearly SEA's have widely different perceptions of how to promote change and foster innovation in education.

Some states mandate textbooks, curriculum requirements or even time units to be alloted to specific curriculum areas per day. In some instances, furthermore, the mandate is directly from the state legislature.

In contrast, one large state is of the opinion that for changes in education to occur, leadership must be provided in lieu of mandates for change.

Its approach, then, is not to mandate but rather provide curriculum guides or lists of materials currently available in state libraries. This SEA offers to evaluate the audiovisual facilities of a school district and determine for the school system:

1. model elements
2. features or characteristics needing change
3. recommendations for change.

The SEA presumably has no authority to enforce recommendations.

States differ in the problem-solving techniques applied to dissemination of materials. Contrasting approaches are evident in diverse methods employed to improve utilization of audiovisual materials in the classroom.

One state feels that in-service and pre-service training is the solution to the problem and has invested all its energies to that end. Another considers that ETV will solve its educational problems and is endeavoring to develop a state-wide system. Frequently these highly focussed single solutions consume a high ratio of funds and energy to the exclusion of other activities.

c. Level of Effort:

States are further differentiated on the basis of resources available to them. Some states, proportionate to their population, have economic sources sufficient for a high per pupil expenditure. $1,251.00 is the highest reported. Contrasted to this figure is a per pupil expenditure of $483.00 per child in one small southern state.[1]

Some SEA's have a long history of active involvement and participation in education while others are relatively late arrivals. This is at times a critical difference in the role an individual SEA has been able to establish for itself within that state, with subsequent potential for impact on the educational system of that state.

SEA's are not consistently staffed at a higher level of expertise than local school districts. Frequently, the SEA's are operating on a lower level than large sophisticated school districts. One AV officer stated the SEA personnel in his state were forbidden to contact the large urban and suburban school districts and must confine their activities to rural schools only. As professionals, receiving lower salaries than personnel in large sophisticated school districts, the administration felt that state personnel could not communicate, let alone contribute to improvement of the local school conditions.

SEA's have different methods of operating on the basis of geographic differences and population densities which affect what dissemination methods will be viable. One small mountainous state for example, has invested funds allocated for non-print materials in mobile units.

SEA's then, as a result of interplay of available resources, approach to change and problem-solving, and objectives, have different configurations of dissemination systems operating at singularly characteristic stages of development.

Three case studies of markedly contrasting SEA's follow:

Case I: Advanced SEA
Case II: Typical SEA
Case III: Underdeveloped SEA.

Case I: Advanced State Education Agency

This state is currently strongly committed to the concept of regionalism in services. A major question is the kind of regional cooperation needed, if any, to assure increased effectiveness of media and resources. A fundamental proposition is that cooperation between organizations with similar goals can be accomplished to the advantage of all concerned.

The following description of activities of the SEA which comprise a dissemination network will give some indication of breadth and nature of activities.

1. Regional Materials Distribution Unit: Cooperative arrangements formed to provide services for local school districts but spearheaded by SEA. Audiovisual materials and comprehensive educational communications programs constitute a rather significant development at this level. These regional outlets are highly varied in terms of effectiveness. Participation by local units is on voluntary basis. Much of the success of a given unit is contingent upon leadership qualities of Director. Lack of good quality personnel at outset meant low quality materials leaving poor impression of these units in many school districts and subsequent withdrawal. This SEA regional program, of which there are 50 units, is administered by the Division of Educational Communications of the SEA. Even with establishment of regional network many schools and districts do not have access. The system was not designed to serve urban areas, though 50% of schools in urban areas could participate in outlying units if they so chose. Generally these urban schools do not; materials do not meet their needs.

2. Regional Reference and Research Regions: In 1968 the State was divided into nine regions to serve as a basis for coordinating state-wide efforts to develop and initiate a program of cooperation among the many types of reference and research libraries in the state.

3. Museum Regions: The SEA operates the State Museum and Science Service as well as a division of Archives and History. The State Museum develops and displays collections in behalf of the public; it also provides educational programs for school children, in-service programs for teachers, and distributes materials and publications often suited to instruction.

4. Special Education Instructional Materials Center Network: This network is a sub-network of the national SEIMC network. As such there are presently three National SEIMC's within the state, with state plans for nine additional centers to surround the primary network. A secondary network is planned which will link three Schools for the Blind, the ten Schools for Deaf and a Human Resources School. Another secondary network is planned, based on twelve regional libraries within the public library system to focus primarily on books, manuscripts, and pamphlets applicable to education of handicapped children.

5. Title III Regions: Fifteen Regional Supplementary Educational Centers are in operation charged with the purpose of stimulation of innovative practices, the dissemination of information pertinent to educational improvement, the in-service development of instructional staff and the encouragement of research and development activities in area schools.

6. Computer Based Statewide Film Library Network at Major University: A feasibility study involving a major university, film rental library, two state university college film libraries and

fourteen regional film service units was conducted. It was concluded that a centralized computer serving as an inventory, booking, distribution and bookkeeping control installation would be functional. Network personnel have recently recommended that the system be expanded to include all instructional media.

7. Educational Television: Seven ETV stations in the state were linked in a network through cooperation of the ETV Councils, SEA, and State University. A central operations center directs transmission flow and provides quality control of electronic signals. Each station is able to receive and transmit simultaneously and is therefore able to serve as a network repeater or terminal station. Each station works closely with local school subscribers providing instructional programming as well as general adult cultural and informational programming.

8. Higher Education Institutions: State Universities are establishing Instructional Resources Centers built around various media utilizations. Shared services in research, teaching, and management are planned for CAI, TV, FM Radio, etc.

9. Other SEA Activities to Promote Effective Use of Media:

    - Audio Tape Centers and Catalog: Originally a state center to dub tapes from Boulder National Audio Tape Center. Had to decentralize to regional locations because of insufficient staff at state center. The Centers will be located in 4 regional units and one independent school district.

    - TV personnel considering network arrangement for regional dubbing of videotapes as well,since volume is more than state center can reasonably process.

    - SEA will produce a state-wide catalog for audio tapes.

    - SEA provides an evaluation of programs to local school districts as a means of fulfilling its leadership function to education. The SEA has no authority to judge media programs, designate model elements of a program and areas needing improvements with accompanying recommendations.

    - State Curriculum personnel are currently developing a multimedia curriculum kit. Available commercial materials and teachers' ideas are being collected and assembled. There are no plans to disseminate the kits as this is untenable, but information about available materials will be disseminated.

    - Competitive Grant Program: SEA provides funds for materials while local school district supplies staff and equipment.

- State-wide materials processing network with uniform catalog code to dovetail with or piggy-back public libraries and university systems.

- State-wide Library-Media Center network. Currently SEA does not know how many schools have library programs, but is attempting to make this assessment.

Administrative Structure:

There are three major divisions within the SEA pertinent to media and dissemination:

1. Elementary and Secondary and Continuing Education.
2. Cultural Education.
3. Center on Innovation and Planning in Education.

1. Elementary and Secondary and Continuing Education: Contains several divisions, one of which is a division of instructional services which is broken down according to subject matter disciplines. Activities center on development of curriculum but also promote use of media; administers Title II funds and competitive grant programs for model media centers.

2. Cultural Education: Within this department is the Division of Educational Communication and Bureau of Mass Communications.

   a. Division of Educational Communication: promotes use of media in educational institutions.

   b. Bureau of Mass Communications: plans, coordinates and promotes use of all mass media, including TV for instructional and cultural purposes at all levels of education.

3. Center on Innovation in Education: Due to a restructuring of the SEA this unit is now called Center on Innovation and Planning. The Director of this unit reports directly to the Deputy Commissioner. Its stated prupose is: To direct and coordinate the design, evaluation and dissemination of educational innovations. Contains dissemination unit to disseminate Title III materials and programs state-wide.

   In restructuring the SEA, this unit was attached officially to the Elementary and Secondary Division as a planning staff. Several subject matter divisions have been involved in a series of meetings to discover areas of common concern, ways to approach problems, and identification of areas of duplication of services. This center is currently planning an overall information system based on shared responsibility, since many offices have already implemented or are planning separate information systems.

   By and large the process of being accepted as planning coordinator by other divisions of the SEA has been long and slow. The Center is attempting to resolve conflicts and resistances by a series of meetings for talk. Department heads and deputy commissioners are more accepting than professional staff because these officers have been involved more regularly in joint meetings.

The Center is not attempting to impose plans upon other divisions but by involving subject matter specialists and representatives from divisions. Evaluation, Measurement, and Educational Communications in series of discussions and work sessions are gradually evolving a common acceptable process for planning, or a method of planning for educational needs.

A series of Task Forces have been established to determine what the needs of the SEA are, the role of SEA should be, and needs of Education generally, should be.

Comments on Administrative Structure and Organization:

Audiovisual materials are a relatively late arrival to education. Perhaps that factor explains the administrative arrangement of this SEA. The Division of Educational Communications is housed in the Division of Cultural Education separate and removed administratively from elementary and secondary, despite the fact that one objective of educational communications is the promotion of use of media in educational institutions.

The efforts to establish dissemination networks and communications links have been tremendously uncoordinated and disjointed. A recent study conducted by the Center for Innovation and Planning revealed that 18 separate units within the SEA had dissemination systems. Attempts are being made to coordinate these systems. Task Forces have been assigned to study feasibility for a state-wide master plan for communications. One such plan has been on the drawing boards since 1958-59 but is as yet nonoperational due to the problem of selection and installment of hardware. The Center on Innovation and Planning is making every effort to coordinate activities of the many separate divisions in the SEA. A recent task force assigned to undertake a study of SEA divisions discovered that these divisions are characterized by defensiveness resulting in isolation accompanied by an atmosphere of suspicion and lack of trust. This attitudinal set inhibits cooperation and coordination among the several divisions resulting in duplication of services to same audiences and frustration on the part of the audience groups from onslaught of materials and information from several sources.

Efforts to regionalize services are theoretically sound. The objective is to be located as close to the user as possible for both accessibility and to better understand and serve local needs. In this particular state, however, these many services have been somewhat less than successful.

Reasons for variability of success include:

1. Variable leadership qualities of directors of installation.
2. Voluntary participation of local school units. (This is not to imply that mandatory participation is preferred. An intermediate step may be possible such as stronger inducements for participation.)
3. Personnel responsible for the early development were frequently poorly selected which resulted in initial dissatisfaction of early participating schools which discouraged full or continued participation.
4. Lack of coordination among the several types of services leading to frustration and dissatisfaction on the part of the user.

Positive Aspects:

1. The SEA of this state has been charged with the mission of general supervision of education for the state. In carrying out their basic mission this state has decided against directed activities and specifications. The SEA has chosen rather to raise the standards of education by performing a leadership function. Evaluative services are offered local schools. Guides to audiovisual aids and bibliographies are prepared in lieu of State-approved or mandated materials. An Educational Communications Handbook has been written and published by the SEA to upgrade standards of media use.

2. This SEA has recognized, through results of previous efforts, that plans for new educational services and institutions need to be formulated on a long-range basis through careful planning. In addition participation of members affected by the changes need to be enlisted at the outset through involvement in the planning process if change is to occur.

3. This SEA is also aware that in order to achieve a truly effective system the SEA activities must first be coordinated.

Case II: Typical State Education Agency

Services and Functions of SEA:

This agency is probably typical in the "range" of services offered to local public schools, if not in quality and quantity of services offered.

The services pertinent to educational media, in this state are localized in the Bureau of Instructional Services. The separate divisions within this bureau are as follows:

-Program Coordinator
-Telecommunications

- Production and Distribution
- Educational Media and Regional Instructional Materials Center

The Bureau of Instructional Services frequently collaborates with:

- Bureau of General and Academic Education
- Bureau of Curriculum Development and School Evaluation
- Federal Programs Coordinator

The BIS also publishes a quarterly newsletter entitled Intercom, and a Guidelines for Instructional Media.

Division of Educational Media and RIMC: This division is responsible for:

1. Coordination of programs of the 26 RIMC's.
2. Training of educators in value and effective use of educational materials through in-service and pre-service programs, publications and consultations.
3. Examination and evaluation of methods, tools, and materials.
4. Collection of information and development of proposals re: federal and state funding in the area of educational media, state regulations, and administration of funds allotted to RIMC's.

Division of Production and Distribution: Provides supportive services to other two divisions of the Bureau, to other agencies in the SEA and educational agencies in the field.

Other activities of the Bureau of Instructional Services:

1. Telelecture via ETV. Pre-service and In-service training in use of media.
2. PRIMES: an SEA storage retrieval and information program to contribute to improvement of curriculum development through knowledge of current trends in mathematics.
3. Micro teaching services to schools.
4. Bibliography of educational technology.
5. Educational Development Centers: 14-18 of these centers have been established at state colleges to service the SEA, state colleges, and local schools. These centers are to provide AV service, consultative services, disseminate print materials, help develop curricula, evaluate curricula, write Federal proposals and evaluate them.

The Bureau has plans for an Intermediate unit; 25-29 Intermediate units to blend in with the RIMC's to offer consultation, pre-service and in-service training.

6. Experimental Learning Centers: Four presently, with plans to add four additional ones over the next five years. Eventually plan to have a total of 14 of these centers which are to replace lab schools in the state colleges.

These centers will conduct experiments in education in the local schools. Audiovisual activities are to be an integral part of the centers' activities.

7. Division of production and distribution does audiotape and videotape reproductions.

The SEA does maintain a filmstrip library and a center library of materials.

This state does not mandate use of specified materials, either print or non-print. A catalog is published by the central library indicating those materials available for use in that state.

Reaction to SEA by Local School District:

One large, urban school district interviewed, reported that in their opinion the RIMC was not doing the job originally designed to do. Reported that one had to wait three months to obtain a film requested. Did state that the state filmstrip library was operating at a more effective level but this may be due to the fact that few used this source of materials.

Listed reasons for failure of RIMC as:

1. Inadequate cataloguing: too few catalogues are distributed and updating system unwieldy and ineffective.
2. RIMC not prepared to handle volume of business generated. The center is 50% efficient in filling requests if one is first on the request list; otherwise can only expect 10% efficiency.
3. In this local school administrator's opinion the RIMC is poorly administered and badly managed.

While this large urban school district is located in the State Capitol it has no media center. In the past this school system has relied on the services of a nearby RIMC. However, this year the school system is withdrawing its support of the RIMC because their needs are not adequately met. This district is exploring the possibility of developing its own media center but cannot get started until 1970-1971. In its own opinion the RIMC is not geared to meet the needs of an urban school district.

The requests for in-service training which are directed to the SEA are channeled to the RIMC's. This is an unfortunate situation if many local schools have the same experience as that described above.

One administrator of this same school system revealed that the only primary connection he had with the SEA was the NDEA program.

A second, even larger, urban school system concurred with the opinions of the first. The SEA in their opinion, is weak and ineffective and has little impact upon the local school districts and education.

Comment: It may also be noted that this SEA is catapulting itself towards the situation described in Case I. Dissemination systems are proliferating with apparently little attempt at quality control of these networks. This may mean, however, that given these basic building blocks USOE may have the task of strengthening these present systems rather than providing new structures. A careful assessment needs to be undertaken.

Case III: Underdeveloped State Education Agency

A Small State With a Minimal Operation Re Media:

There are approximately 11,000 teachers in this state: 5% have some training in AV, limited to equipment operation. Two teacher training institutions have a faculty member with some expertise in AV.

The individual interviewed was the AV Specialist and Consultant. He and a secretary operate a small film lending library. The AV Specialist however, is more interested in ETV. He hopes to use ETV to train teachers to use media. The ideal would be to have a state media center but this specialist sees very little hope for such an eventuality given present level of funding.

The AV Specialist noted that equipment currently housed in the schools, purchased by Title II funds, is virtually unused due to lack of supported activities, training and motivation of teachers and leaders.

The two activities in the state at all responsive to media in education are:

1. An Educational Research Center: A federally financed project; doing some work with local schools in application of and evaluation of AV materials.
2. A Model Project: federally financed. Involves a social studies curricula built around AV in two elementary schools. Project included the training of teachers in media usage. The state AV Specialists felt that the project was successful in and of itself but not as a demonstration project. Federal funds have run out. To secure any spill-over at all it would be necessary to transfer trained teachers to other schools. This is also unlikely since qualified replacements are unavailable. Probably will not have any effect on other four schools within the same city.

NOTE: This state obviously needs considerable resources to develop intellectual, motivational and physical dissemination systems. Further, the development of some expertise in spreading innovative ideas is also needed.

PART II: Some Current Methods to Improve Dissemination of Non-Print Materials Developed and Used by SEA's

This analysis of the SEA's is made with a view to developing an effective national network for communication and dissemination while retaining State autonomy and authority.

Several SEA's have developed systems, methods, or policies to improve and upgrade dissemination of non-print materials in their states. Many of these ideas or policies could be incorporated into a USOE facilitated national dissemination system for greater overall effectiveness and to solve some very highly specific problems. Some of the SEA's are comparable to the USOE in magnitude, range of function, and objectives.

Several SEA methods of operating are described below with implications for the USOE.

1. Combination Funding: Some SEA's have learned that one source of funds is often not sufficient and that funds are frequently available from several sources for the same need. These various sources of funds can be combined to achieve a goal very effectively. One SEA matched funds with a county school system which had raised funds independent of usual tax levy, then added funds available from NDEA.

Implication: USOE may wish to explore this concept and to apprise SEA and LEA personnel of the possibility of combining funds for greater latitude and increased level of effort in planning programs. USOE may wish to establish this as policy in working with SEA's and LEA's in the implementation of dissemination activities. While it is more complex it has the advantages described as well as the assurance of "all the eggs not being in the same basket."

2. State Cooperatives: Several States have created new dissemination and distribution facilities by arranging for local school districts to merge their resources. One state has established a film library with regional outlets. Local school districts make annual contributions for the purchase of film. Each school then pays an additional fee for the use of the film which covers the operating cost of the facility. The films are selected by an advisory committee of personnel from local school districts.

Implications: Cooperative arrangements appear to be one means of supplying materials to school districts which could never afford them alone. These cooperative plans should be carefully assessed and offered as alternatives to State education agencies and local school districts planning dissemination networks for their regions. Careful examination of demography, economics and organization of school districts may suggest new sites for such cooperative units.

3. Grant Programs: One SEA promotes the establishment of model demonstration media centers by providing materials to local school districts to supply the centers. The local school contributes staff and equipment.

Implications: This type of intervention at the local level is politically sensitive because such an arrangement allows the local jurisdiction to maintain control with no fear of loss of integrity. Further, it is likely that local needs are more adequately attended to under such an arrangement. USOE may wish to establish such a policy in working with SEA's and LEA's. The USOE may be able to offer aid in the development of criteria and methods to be used in setting up local media centers.

4. Involvement of Grassroots Personnel: Many SEA's have arranged for teachers from local school districts to serve on advisory committees for the selection of materials to be included in curriculum guides prepared by the SEA. Teacher-made materials are also included.

Implication: Users are involved as much as possible in planning and preparation of materials for them. Further, teachers involved in the selection process are learning while doing, i.e. learning to integrate materials with academic objectives. USOE may wish to employ this principle in developing criteria or standards for materials and systems.

5. Diversified Information Retrieval System: One SEA plans to include several non-educational sources of information about materials in its computerized retrieval system. The SEA would plug into public libraries, commercial and other government agencies who already have computerized information retrieval systems. This system has several advantages in that it provides a broad base of information to enrich the education system and broadens perspectives of educators using the system.

Implications: USOE may wish to assess the numerous non-educational sources of audiovisual materials which may be available in the near future, particularly when dial-access systems become more viable. Non-educational information could be made available to State and local education systems through the use of computers. Some areas may already have systems started on a small-scale basis.

6. Assessment and Evaluation Services: One SEA has established an evaluation service for local schools for the purpose of stimulating, upgrading and maintaining standards. The SEA will evaluate a local school and point out: the positive features of the system, those conditions which need improvement. The SEA then follows up with recommendations for change. Such a system provides guidelines for needed change in a local system without forcing the school or district to change in accord with criteria of agencies outside the local school system.

Implications: USOE should be cognizant of such indirect consultative means of promoting changes in education. One alternative to USOE providing the evaluation team includes Task Forces equipped with sound models and criteria, composed of local or regional personnel for the purpose of evaluating each others' systems. This would eliminate the political implications of a Federal evaluating agency. With such an arrangement, local personnel will gain skills as they learn to assess other systems and then be able to apply these evaluation skills to their own system.

7. Indirect Leadership Activities: One SEA attempts to affect standards through the use of a Handbook of Educational Communications and an annual convocation sponsored jointly by the SEA and the State DAVI Affiliate.

Implications: There are numerous low level or indirect methods by which USOE could impact existing dissemination efforts to induce change, upgrading and improvement of current conditions. The USOE could develop a reservoir of such techniques and materials for local improvement. An appropriate dissemination system is necessary to assure that this information reaches states and localities.

8. Mobile Unit: One SEA does not have elaborate facilities at State level for the dissemination of materials or programs. Further, the State is a mountainous one with access to a centrally located facility difficult. School districts are small in student population. Therefore, when this SEA received Federal funds for dissemination purposes, mobile units were outfitted to provide a dissemination network accessible to AV personnel and teachers in isolated locations.

Implications: There are many alternative ways which USOE can suggest to local schools and SEA's to meet their particular needs. USOE may wish to supply an information exchange among planning officers in SEA's to provide options for widest possible choice in the design of a dissemination network. Subsequently guidelines, consultations and training could be provided SEA personnel.

9. Multi-organizational Facilities: One SEA has established 18 educational development centers within its State colleges. This arrangement is an attempt to bring together several parts of the educational community for exchange of ideas, experiences, and expertise. The State college donates one professional person, the SEA one professional person and one clerk. The center provides audiovisual services and consultation. The centers have as objectives, in addition to services: development of curricula, evaluation of curricula and aid in preparation of Federal proposals. The SEA, college personnel and local educators are thus provided a forum where each is exposed to the others' thinking, problems, and values, to promote change, new solutions to problems and greater understanding.

Implications: USOE may wish to help SEA's to provide for professionals involved in dissemination at different levels of the systems a means of information exchange which may lead to more imaginative solutions to individual problems. This may be accomplished through newsletters, conventions, etc. Again OE's role would be that of providing guidelines, consultation and perhaps cost sharing to states in improving dissemination. Stronger provisions for confluence of several levels of expertise towards solution of educational problems may be brought about through funding stipulations or requirements in USOE contractual arrangements with SEA's.

10. Training of Local Personnel: One SEA provides in-service training to librarians to teach them to process and use audiovisual equipment. This in and of itself contributes to a broader concept of 'library' on the part of librarians; a concept which includes non-print as well as printed materials. The librarian completes this in-service training with a broader view of his role. This may result in greater satisfaction both to himself and the total library as the librarian begins to expand his functions in keeping with the new concept of his role.

Implications: Certain minimal interventions can have major psychological ramifications, such as the one cited above. USOE may wish to develop or have developed and assemble a repertoire of such economically feasible interventions to be shared with program planners at State levels.

11. Pre-Service Training: With the clear recognition that specialized areas of training cannot be always adequately covered by teacher training institutions, State AV centers do, in some instances, provide pre-service training programs in audiovisual communications to undergraduates in teacher training. Such programs contribute greatly to the overall preparation of the teacher. The teacher is not only acquiring a skill but in a real context with greater chance of its being successfully transferred to a job situation.

Implications: USOE may wish to reinforce such on-going systems in SEA's, institute them in others, or even establish a USOE intern program for teachers, librarians, educational technologists, or information specialists for placement for a practicum period in regional Educational Service Centers or large successful installations such as a university. Federal or State management of such an internship program can be subsidized.

12. Coordinating and Planning Offices: Coordinating and Planning Divisions are a recent addition to some SEA's. Organizational problems which emerge as a result of a rapidly growing entity require coordination of dissemination functions for a truly effective system capable of meeting user's needs.

Implication: A number of coordination plans and models are emerging. As the products of specific settings and need systems they are a valuable source of understanding of the organization of dissemination systems. Some unit in OID, or other relevant part of OE or NCERD should have responsibility for such administrative research. The primary requirement would be that its products be fed into the USOE plan of operations rather than limited to professional journals.

Appendix A

The following lists are examples of dissemination networks which currently exist within SEA's and could be immediatly utilized by the USOE for the dissemination of materials, programs and ideas.

1. State-wide ETV networks
2. Regional distribution and dissemination centers
3. Newsletters (35 states now publish regularly)
4. Title III Centers
5. State Film Libraries or Central Media Centers
6. Mobile Units
7. Computerized Film Access Network
8. In-service Training Programs
9. Pre-service Training Programs
10. State-wide annual media conventions and workshops

Note: the pluralistic emphasis is on providing alternatives or complementary ways in which the State may exercise the dissemination function with help from USOE if required. These channels once established can become a vehicle for transmission of OE and other materials appropriate to the needs of education. The centralized methods of dissemination i.e. catalogues, training programs, training films etc. should be responsive to and geared to the dissemination structures that USOE helps States and local groups to establish. An effective monitoring and feedback system is required to achieve this level of sophistication.

Part III: Problems of State Education Agencies Related to Dissemination

There is a wide variation in the extent and effectiveness of dissemination among the several state education agencies. Problems exist even in those states which might be categorized as "advanced". This section will isolate and discuss thos difficulties which tend to inhibit the development of state-wide dissemination systems. These problems, then may be carefully assessed by the USOE through and with each state in the course of designing a dissemination system to fit the needs and characteristics of each individual state.

A. Organizational Problems:

Two SEA's illustrate the point that dissemination systems are relatively ineffective when the reason for their establishment is other than dissemination. A necessary characteristic of the dissemination process is that the user feel motivated towards utilizing the system freely and to his greatest benefit. Certainly this readiness is less evident when users are suspicious of the objectives of the dissemination system.

Through the study of one SEA it was learned that a system of regional outlets for audiovisual materials had been established in that state as early as 1948. On the surface this was an admirable step to have been taken during a time when systems for dissemination were fairly underdeveloped. It was later learned, however, that the dissemination of materials was only a secondary goal. The primary goal was one of achieving reorganization of the local school districts of that state in accord with a plan proposed by the state legislature. The plan was to integrate small, centralized school districts into larger political segments.

The regionalization, initially to be stimulated by the regionalized dissemination centers, was by and large, unsuccessful. The centers did not serve the school systems well; subsequently, school systems withdrew their support. Currently the regional outlets do exist but function only as a dissemination network. All that remains of the earlier intermediate district plan are titular superintendents in each new proposed district whose job is restricted to planning vocational programs for that district.

The legislature of a second state established a central repository for all research materials within that state. The state AV personnel discussing this circumstance wondered if this was a direct attempt by the state legislature to control those agencies participating in the program, the SEA and particularly the universities.

A related problem of a political nature is the assignment of need priorities. SEA's find it most difficult to maintain a balance of allocation of funds and energies when faced with a situation where the needs of one group have strong political support and are subsequently overemphasized by the political leaders of that state. The SEA's are forced, as a result, to devote equal attention to this cause if they wish to maintain the good will of the state leaders. When an SEA, in the course of planning a dissemination system, encounters such a political situation, objective planning necessary to meet the needs of all user groups may be somewhat inhibited.

Duplication of services or dissemination networks among divisions of an SEA is a problem in the planning of a state-wide dissemination system. Surveys and analyses of the existing systems must be conducted to determine which systems will be retained as part of the state-wide, comprehensive system. This assessment must be undertaken with the realization that the separate SEA divisions may be jealously guarding their dissemination networks as evidence of their performance.

B. SEA Relationships with Local School Systems and Other Educational Agencies Within the State.

1. Assessment of Need and Market: Frequently services established by SEA's promise much to the user of the system and are subsequently unable to follow through as a result of inefficient or no planning. Failure to anticipate expected volume of use and to implement the system accordingly has destroyed some systems which quickly became overburdened. Estimates of need, demand and effective demand are important. The question of how to convert need into demand and demand into effective demand is raised. Unsuccessful starts pose serious problems in subsequent attempts to establish effective systems when users have already become disenchanted with state affiliated services.

2. Locating all Dissemination Channels: In states where the state education agency does not have resources to play a strong leadership role, other organizations such as universities may intervene. In one state the legislature has established a statutory body to perform those dissemination tasks not being undertaken by the SEA. In others, interstate compacts have become the source of programs. This diversity means that USOE will have to develop dissemination mechanisms, skill in discovering the many kinds of leaders, and entry points as well as ways to involved these private or other government systems while working with the SEA to develop a comprehensive dissemination system.

C. Characteristics of the Many State Governments and of the State Education Agencies Which Must be Considered in the Design of the Federal-State Interface:

1. Declining tax bases, inflation and unstable budgets.

2. Political and sociological ferment concerning segregation, political differences.

3. Lack of adequate information about experiences of other states, and other parts of the educational community, and lack of staff to find out.

4. Lack of adequate information about resources available from USOE and its subsidiary operations.

5. Many states are strewn with the debris of federal and state AV pro-

grams that were de-emphasized at the federal level, or replaced with a new concept. Thus a considerable potential for poorly, or totally uncoordinated programs exist in the resulting overlaps. For example, poor communication and rivalry may exist among OEO programs, Title III programs, etc. State programs, municipal programs and private programs may experience the same breakdown.

Recommendations:

A degree of coordination is in order. It may be possible to encourage each state government to develop a comprehensive dissemination system based on the model of the Mental Health Centers programs. National criteria for such programs provide for local autonomy but set federal requirements for certain basic functions.

1. Smoother flow of information from federal to state and from state to state dissemination systems. Such a flow could be based on consistency of terminology.

2. Elimination of overlapping agencies by allocation of funds to selected existing and needed functions.

Summary and Review of Interventions: SEA

I. The State Education Agencies are individually highly complex and variable. Each SEA appears to be at a slightly different stage of development relative to the others; each with different needs. A uniform USOE dissemination network imposed on each SEA would be unsatisfactory and unacceptable.

Any USOE dissemination network must be tailored to meet the requirements and needs of each individual state if the level of dissemination of non-print materials to public schools is to be improved. The objective should be a comprehensive State dissemination plan for each state, serving the unique needs of each state and complementary to the Federal information and dissemination system.

In order for the USOE to work with each SEA toward a plan for a state-wide dissemination system, a full understanding of the internal organization, politics and existing dissemination networks of that state will be needed. A data gathering - need assessment technique to make these determinations will be required, probably state centered and meeting OE requirements.

II. USOE should expect different planning and operating procedures to emerge while working with each individual SEA, dependent upon the needs and requirements of each state.

USOE will need, therefore, a central coordinating and management function to undertake overall working relationships with SEA's. This division would ensure that all stated needs of SEA's were being attended to while optimal requirements for a dissemination program were met and the capability for interaction with Federal and other sectors was provided.

III. To facilitate planning and stimulate interest in improving dissemination networks at SEA level, USOE could be highly instrumental in providing a forum or some means for SEA personnel to exchange ideas, problems and solutions. A number of such meetings are held annually, state chiefs of AV etc. Greater participation of Federal and Regional personnel may be indicated. An information exchange network among SEA personnel involved in planning, implementing, and operating dissemination networks may be offered to SEA personnel.

IV. The research study has shown that SEA's have a range of problems, many different administrative patterns, as well as differing geographic and population characteristics. All of these must be considered and assessed in the planning and implementing of state-wide dissemination networks. USOE will need therefore, to develop problem-solving techniques and capabilities and provide consultants skilled in need assessment to work and plan with SEA personnel.

V. Many SEA problems are amenable to solution through training of personnel at operating levels of the dissemination system. USOE will need therefore, to develop capability to conduct in-service training for SEA personnel at operational levels: a Federal-State exchange program, fellowship programs etc., have proven to be useful techniques.

VI. Each state will have requirements and criteria for an effective dissemination system, some of which will depend on state resources. USOE should remain apprised through the State programs staff or function of how state-wide dissemination systems are meeting those criteria and requirements as well as monitoring development of new and innovative methods and of failures. USOE would be expected to make policy, role and procedural changes in its own structure and function to assist in satisfying those criteria and requirements. Further, USOE will need to evolve and alter its role as needs of state education dissemination systems change. USOE will need, therefore, an evaluation mechanism for continual, on-going assessment to determine:

1. to what extent USOE policies and procedures are leading to the development of satisfactory state-wide dissemination networks.
2. what changes in USOE policy and procedures are needed to deal with changes in SEA's and education generally.

The USOE dissemination system, then, would serve and interface with a series of state-wide dissemination systems. USOE will work with each SEA and plan a state-wide dissemination system according to the needs, requirements and characteristics of that state. USOE would be expected to promote implementation of state plans through 1) funding; 2) direct help, in the form of in-service training and consultants; 3) indirect support, in the form of information, and research and development procedures required to ensure supply of appropriate AV materials. Further, the National Educational Service Center and Regional Centers would be established to serve as models and measuring rods for SEA agencies establishing state and local education service centers.

The expected rate of success and acceptance of such a plan among state education agencies would be high. State education agencies would maintain their political autonomy and professional integrity. The control of the state dissemination activities would remain in the SEA. The criteria and requirements for a dissemination network for the individual SEA would be established by the personnel working within that state who have a better understanding of the professional needs and requirements of users of that state's dissemination system. Thus, the role of the USOE would remain one of being supportive, adjunctive and catalytic; consistent with its objectives of improving education, while maintaining local autonomy.

State Education Agencies

Footnotes

1. "NEA Hits Schools Funds Cut," The Evening Star, Washington, D.C.: Monday, January 5, 1970, Section B, Back Page.

School Districts

I. Overview

The local school district is a governing body formed to supervise and administer the business of education for two or more schools. Twenty-three school districts were surveyed and analyzed in the course of this study. The sample was selected on the basis of geographic distribution and to include a range of student population sizes, socioeconomic levels and urban, rural and suburban schools.

The findings and conclusions reported in this chapter focus on three areas important to the design and operation of any AV materials dissemination system suitable for local school districts:

- Present strengths, inadequacies, and needs at the local school district level
- Major trends
- Forces affecting the school system.

Each of these factors is discussed in detail, for each can be influenced by USOE interventions for the better dissemination of USOE-generated non-print materials.

II. Present Strengths, Needs and Inadequacies of Local School Districts

Personnel interviewed at the local district level are acutely aware of forces which facilitate or inhibit the effectiveness of audiovisual materials distribution and utilization. These forces fall into four categories which relate to:

- Educational policy and planning
- Management of services, materials and information systems
- Operating personnel (See chapter: Media Problems in Individual Schools)
- Certain broad factors which pertain to personnel across all levels of the school district.

A. Educational Policy and Planning at the Local School District Level

The overall design of the AV dissemination system within any school district is influenced by policy decisions made at the highest administrative levels of the school system. Personnel involved in these decisions are:

1. Boards of Education: They affect, and sometimes set parameters for, the overall level of effort of a dissemination system through funding allocations or restrictions. Policy is often determined by the need priorities of community sectors, as well as the needs and demands of teachers and other personnel in the school system. The demands of students have begun to have an influence.

2. Superintendents: While the overall extent of dissemination is determined primarily by the tax base and budget allowances, the allocation of funds within the school system may be determined by the superintendent. At this level, for example, the decision is made as to whether to establish a central AV center or add a new gymnasium to the high school. The superintendent may directly affect the nature of the dissemination system since he is the one who most often makes or more frequently recommends such decisions governing large capital expenditures as whether to invest in dial-access or add duplicates of films and several more trucks to the present system.

In shaping his decision, the superintendent is subject to many of the same forces which influence boards of education. In addition, the superintendent may have an approach to education which is the critical variable in the choice of alternative AV dissemination systems for his school district.

A wide range of other factors are important to decision-making at this level including economics, feedback from principle advisors, the influence of professors of nearby schools of education and the options and limitations imposed by the realities of administrative staff interests, teacher preferences and community characteristics, including resources.

3. Assistant superintendent: The role of the assistant superintendent varies with the size of the school district. In larger districts there are typically several assistants, each assigned a major area of responsibility; finance, personnel, instructional systems, etc. An assistant superintendent may be responsible for planning the implementation of policies established by the superintendent. He may exert considerable influence on the dissemination system through the personnel he hires. He may have direct responsibility for such decisions as whether to allocate funds for in-service training conducted by a nearby university or to purchase professional training films. Once a function is deemed necessary by the superintendent, an assistant superintendent usually decides how the function will be implemented.

4. Finance Officer: He often has a major influence on whether or not funds are allocated for a suggested system, function or piece of capital equipment. He may also determine overall apportionment of funds among several budget items. While this officer will not generally make the final decision, his input is an important and unique contribution towards decision-making based on the principle of cost-efficiency.

The foregoing administrative roles have been described in this way for the sake of clarity, but no school district operates this neatly. The decision-making typically is far more complex as a result of interaction of the several top administrative personnel in deciding on major issues, and their varying degrees of autonomy and authority.

Implications and Interventions Pertaining to Educational Policy and Planning

Information Needs Personnel at the highest administrative levels have need for information which can be used in overall systems planning. These needs include adequate information about the characteristics and requirements of the approximately 25,000 school systems in the United States. School superintendents and other educational personnel require information about their own systems as well as other pertinent educational matters. Methods for eliciting such need oriented information from the "grass roots" in useable form becomes a significant requirement. It is hoped that the task force on information systems or some comparable group will address itself to this problem.

The National Need Assessment and Information Unit proposed in this report would collect information on alternative plans for AV dissemination systems, and the relative advantages and disadvantages of a range of such systems. This information would be made available to local school district personnel through the development of a National Information Retrieval System accessible through the Regional, State and Local Education Service Centers.

Skills Policy-makers at the local school district level require skill and techniques in systems analysis and large-scale program planning to:

a. analyze the needs and characteristics of their school district in relation to AV dissemination;
b. identify and analyze the interrelating subsystems which comprise the school district and determine their relationship to existing and proposed AV dissemination systems;
c. determine goals and objectives of their AV dissemination system and communicate these goals and objectives to both the community and to school district personnel in order to implement the system effectively.

Regional and State Education Service Centers should include provisions for in-service training of local school district personnel to supply the special skills required for planning dissemination systems. Local Educational Resource personnel should be available to assist school district personnel in solving unique or indigenous problems.

Information personnel should be available to recommend public information materials produced by USOE or to assist local school personnel to design and produce public information materials which are addressed to special problems of the specific school district.

B. Management of Materials, Information and Services in Local School Districts

A key element in a successful dissemination system is the organization and maintenance of materials, information and services offered to ultimate users. Local school district personnel directly responsible for these operations are:

1. AV Directors and/or Chief Librarians are primarily responsible for the operation and management of both physical and intellectual dissemination. The latter, the physical distribution system, at a minimum must provide the user with AV materials in a state of good repair, and delivery as close to request time as possible.

The design and operation of the information system is a crucial variable in determining the effectiveness and rate of use of the entire AV dissemination system. The information system should be carefully designed to suit the behavioral patterns, cognitive style and work habits of the users.

2. Curriculum supervisors now play a key role in supporting and determining the effective use of any AV dissemination system.

Originally curriculum developers, like other role players in education, regarded audiovisual materials as a supplement to, or an enrichment of, the instructional process. More recently, a number of educators have begun to recognize that audiovisual materials have far greater potential, that they can be closely woven into the instructional fabric and used to solve specific instructional problems. Increasingly, audiovisual materials are evaluated and included in curriculum guidelines with the same attention as textbooks. Where this is done, the effect is an improved selection of learning materials offered the teacher.

3. Supervisors of Instructional Materials contribute to the AV dissemination system. Their divisions design and produce AV materials to meet specific needs of teachers or curriculum supervisors.

Implications and Interventions Pertaining to Managerial Level Personnel

There are several basic skills and information needs which managerial staff require for an optimally functioning dissemination system.

Sensitivity to User Needs Managerial personnel need to develop an awareness of the extent to which the success of any AV dissemination system depends on how well it is designed to meet the needs and suit the characteristics of its users. Further, they need to be aware that this can be determined by and large by managerial personnel, including those who have little or no direct contact with teachers or students.

Educational Service Center personnel can establish and reinforce an approach to AV dissemination which considers the user first. In relation to dissemination, the ESC can provide a model for local managerial personnel, and can also provide in-service training designed to teach school district personnel techniques for determining user need.

It is also vital that these needs be recorded and that a formal system providing for the upward mobility of information and ideas be provided.

Information Needs The Educational Service Center should include an information storage and retrieval system to supply management with information concerning optional techniques for designing dissemination systems based on user needs, and guides for integrating media in curriculum planning.

Managerial Training Needs Educational Resource Specialists should be available to solve unique or special problems of management, and to provide skill and ideas for in-service training of users. For example:

- AV specialists or chief librarians may need to learn techniques for training teachers in how to use available AV information channels, or in how to plan lessons utilizing media;
- curriculum supervisors may need help in training resource teachers or classroom teachers in methods of evaluating media, or perhaps in how to establish behavioral objectives in such a way as to clarify the useful selection of non-print materials.

C. Needs Expressed by Personnel at All Levels of the Local School District

1. Evaluation of AV Materials and Dissemination Systems: Personnel at all levels of the school district who engage in policy-making, program planning and management need skills and information to evaluate AV materials, dissemination systems and user needs. Furthermore, teachers need to know how to evaluate the materials, their own teaching requirements and the learning needs of their students to decide what materials are most appropriate for use. Ideally, evaluation at the managerial and policy planning level is an on-going process which results in modification, upgrading and change to meet the changing needs in education. At lower levels of the system, evaluation facilitates effective decision-making and utilization.

2. A Listening Post: Personnel at all levels of the school district, like so many throughout the educational community, often feel isolated in struggles with problems for which there is no outside interest or help. Many interviewed, for example, felt that they would like to be able to contact USOE personally.

USOE can intervene to provide both moral support and solutions to educational problems in two ways.

It is unreasonable to expect USOE to communicate directly with every school administrator or AV director, and direct contact with the USOE is not the critical variable. Personnel in the Regional, State and Local ESC's who are part of a Need Assessment and Information Unit and in a position to filter needs and problems to appropriate resources would satisfy this need for contact with expert opinion.

The ESC information retrieval system and the Educational Resource Specialists in their active problem-solving work with local school district personnel would provide further personal attention. Both interventions would serve to increase staff involvement and improve the operation of the local school district dissemination system.

Another type of service USOE could provide towards the solution of low morale and lack of communication would be to establish a forum for communication between local school district and SEA personnel with similar problems and interests via workshops, seminars and at conventions.

III. Active Trends Within Local School Districts Which Affect the Nature of the Dissemination System

A. Centralization-Decentralization

Several major trends which affect the nature of AV dissemination become evident in the course of investigating local school districts. There is a drive to place the selection and the adaptation or development of AV materials as close to the teacher as possible. There are also two contradictory storage and distribution trends: some school systems are moving towards, or have centralized AV distribution processes; others are gradually decentralizing to provide teachers and students greater access to non-print materials.

Centralization: As school districts grow larger and larger, the maintenance and distribution of AV materials soon becomes a problem. The centralized depository for storage and maintenance begins to seem the most efficient solution. Highly sophisticated AV storage centers have been developed in some large school districts, and peak efficiency in terms of materials access has been achieved. In most cases, these centralized depositories deal with films only - an expensive medium in terms of original cost and maintenance. Since school systems vary in level of development, many are only now in the process of developing centralized AV storage and distribution systems for films.

Decentralization: School districts which have achieved a peak operating efficiency in terms of storage, access and retrieval of films are now learning that their systems, which not too long ago were considered the most efficient, have been rendered obsolete by new educational practices and standards. Basically three new educational developments have forced AV personnel to move into more effective systems. These new systems, interestingly, are characterized by decentralization.

1. Individualized Instruction: with the advent and acceptance of the educational concept of individually prescribed instruction both the kind of AV materials required and the necessary nature of access to materials is changing significantly. In the more advanced school systems teachers no longer are satisfied with ordering a film three weeks in advance of classroom use. In the most advanced systems, teachers require that AV materials developers be reasonably accessible to design and prepare materials which meet the learning requirements of the individual student. Only in this way can the teacher be adequately supported in his endeavors to tailor instruction to the student. A centralized system which selects and acquires materials from a broad range of commercial items is not sophisticated and discriminating enough. Not only the items, but the dissemination system have to be refined.

2. Demand for multi-media materials: Further, curriculum developers and others have realized that AV materials other than film provide far more latitude in classroom presentations. Sets of slides or transparencies, for example, can be broken down and separate parts used for more flexible and integrated classroom presentations.

School districts have reacted in several different ways to the demand for a multi-media supply of materials. Some central film libraries have been unable to adapt their centers either technically or attitudinally to multi-media. In such an event, it is not unlikely for the curriculum personnel to initiate and manage a multi-media center often in conjunction with materials developers. Other systems have solved the problem by providing financial aid to individual schools in the district to enable each to establish separate multi-media resource centers in their schools.

B. Other Significant Changes and Forces Operating at Local School District Levels

There are several external forces operating to promote or pressure local school districts to seek changes in relation to dissemination of non-print materials.

Several school districts have effectively sought community involvement in school district planning activities. These community planning and promotional activities on the whole appear to be very successful. Some school districts for example, have involved local non-print industry, resulting in acquisition of technical systems previously financially prohibitive.

Frequently professional associations, whether at the invitation of the school district or on their own initiative, provide in-service training and exhibits to school personnel. At times, the local professional association may be involved in program planning or even, in some cases, grant proposal preparation for plans arrived at cooperatively between school districts and professional associations.

In recent years non-profit associations have recognized that for their public information activities to be effective, the approach to individuals needs to be made during the early educational years rather than in adulthood. Thus, new supplies of non-print materials are being offered schools at relatively low cost. This is a mixed blessing for school systems for while low cost materials are indeed welcome, at the same time, the range and volume of materials requiring evaluation and selection is increasing. This makes a winnowing service by the AV department almost essential.

New technological developments are a potential tool for completely revamping present AV systems, particularly the distribution of materials. Dial access and ETV, as each gains greater acceptance, may indeed make individual presentation a reality, particularly by making student access to materials possible. The advent of the cassette tape recorder and the

8 mm. film cassette make this a reality. The present centralized physical dissemination systems cannot accommodate the student.

IV. Summary

These trends and forces operating at various levels of effort and interacting with the developmental stages of the individual district create unique situations in each school district. Like individuals, school districts proceed through developmental stages which are clearly recognizable. Since each district is at a different stage of development, a universal set of criteria or requirements for AV dissemination is unrealistic. Regional, State and Local ESC's will need to assess the needs and requirements of each school district in light of its present development. Each needs to be approached much like the individual learner. Good educational practice would prescribe that program planners determine the school district's readiness and acquired skills, then design a dissemination system which "fits", or takes into account its development for all users, and thereby for the school system. Such a unique system must nevertheless be able to relate to and cooperate with federal, state and private systems, as well as other school districts.

Appropriate activities for the USOE in cooperating with local school districts would be to plan systems to meet AV dissemination needs concerning the skills and information users require, and to help implement these through funding of Regional, State and Local ESC's.

The ESC system should provide consultation, in-service training, information storage and retrieval on a national basis, a need assessment model, and hands-on demonstration of AV materials.

Perhaps the most important help USOE can offer school districts is the knowledge that there is careful planning and direction involved in change and problem-solving in education of which the districts can avail themselves.

Media Problems in Individual Schools

The media services that exist in individual schools throughout the country range all the way from "absent" to individually oriented programs with individually prescribed media available through a Dial Access system. The more common situation by far is the school with access to a media center as well as a small inventory of AV equipment and materials on hand.

Utilization of materials is dependent on such factors as the enthusiasm of the principal, training of the teachers, abilities of the school librarian and the demands of the curriculum. If the system has a Media Center, audiovisual director and staff, or other supportive services, utilization rates are usually significantly higher.

With word of mouth a powerful advertising force, some materials and equipment may enjoy a vogue for various lengths of time. At times this is overdone to the point where previously popular equipment or techniques are totally neglected. Such "fadism" is not apt to occur, however, if materials are well integrated into the curriculum.

Communication with and access to a system's centrally located Media Center presents problems to large numbers of teachers. If a trip to the Center involves time before or after working hours, it may never be made. One school system copes with the problem by opening its facilities to individual school faculty meetings, providing principals and teachers with at least a nodding acquaintance with its services and storehouse of materials. The Center's AV Director reports that giving teachers even this quick look at its facilities was half the battle and that many returned on their own for further investigation.

A number of school districts have handled the problem of the distant, central media facility by acquiring one or more mobile units which make the rounds of individual schools to introduce materials and conduct in-service training on the spot.

A problem many teachers confront, even with access to a well-stocked Media Center, results from a lock-step curriculum so that all third grades are studying Eskimos at the same time and each is asking for the same film on Eskimo life during the same week. The experienced teacher may outwit the system by reserving the film months in advance, but the others will have to get along without that particular learning aid.

One Audiovisual Director felt strongly that teachers who were booking films far in advance were not using the material correctly. "How do they know what they'll be teaching months from now?" he said. To use films correctly, they should be treated as a resource around a student's point of interest at the moment that interest is high.

In this same school district, there is a request in for a high Media Center budget to develop an automated booking capability and evening delivery system for materials. This would permit the teacher to call day or night and have a film within 48 hours. Long waits for materials militate against their use at the educationally effective moment.

In using films teachers are also concerned with the problem of obsolescence. "If you want to use a movie to study about Panama and there's a 1912 auto in a scene, the children lose interest," said one school administrator. A Media Center or school's collection of materials need continuing review as well as initial evaluation at the time of purchase.

One educator saw the split between print and non-print resources as a problem for the schools. He felt that instead of setting up libraries and Media Centers separately, both types of materials should be brought together in resource centers. He also thought that an ideal system would permit decentralized purchasing so that each school could decide on and purchase materials from its own budget.

Another question to face in individual schools is whether or not teachers should be encouraged to make their own materials. In some cases, this is held out as one of the goals of in-service training. However, many audiovisual experts have concluded that teachers have neither the time nor expertise to produce materials and that, in most cases, it is more staisfactory and less expensive to buy first rate materials.

Schools that have made an effort to take materials out of individual classrooms and centralize them in a school library have encountered resistence on the part of teachers who want to keep their materials to themsleves. However, once a school IMC is established, teachers tend to use the materials more frequently.

Availability of funds to hire a building coordinator or AV specialist to manage an individual school's materials constitutes a problem. Nor is there generally ennough space available to shelve and store a supply of materials and equipment.

Summary

A host of problems from lock-step curriculums and obsolete materials to shelf space and personnel beset the effective use of media on the level of the individual school. For media to be used to best advantage in the nation's classrooms, such barriers must be substantially reduced or eliminated. Whether efforts toward improvement are at the national, regional, state or local level, the target must clearly remain the individual school.

Implications for USOE

The individual school and teacher remain the final gatekeeper except for the learner himself. The objective of improving education by more effective dissemination and utilization of non-print materials cannot be met while materials do not flow through this critical part of the system. Assuming the supply of good material, the efforts to modify the system will depend on:

1. easier access to information about materials through more pertinent catalogues or cataloguing systems as well as easier access to materials
2. training of teacher and supporting staff evaluation, selection, and utilization of non-print educational materials.

USOE can influence the problems of "access" by:

1. greater investment in improved information science investigation directed to understanding the user and his characteristics and his problems rather than the continuing imposition of arbitrary systems of storage and retrieval.
2. supporting pioneering efforts in automated access
3. sponsoring more fundamental research in the psychological factors involved in the decision-making process.

Evaluation: teachers and support personnel need to be provided with evaluation skills which can be applied both to materials and the dissemination system itself. The ability to evaluate a material is an integral part of the decision-making process. The system impedes or facilitates this decision-making process through the amount of information and criteria supplied the teacher as well as the time to evaluate and decide and the support with which the decision is implemented or reinforced. Effective interplay between teachers and system aspects of the decision and dissemination process is critical to successful dissemination.

Selection: the dynamics of decision-making at the local level offers the greatest challenge and promise for improvement of the functioning of the individual school. When we have achieved a fuller understanding of communication and decision-making in the individual school and the self contained classroom we will have acquired much more leverage in the effort to improve education.

Utilization: can be improved by research into the motivational factors involved in selection and improved use of good teaching materials. Little effective research has been devoted to the relationship between the teacher and his tools. Indeed, much has been done to suggest that the several new technologies compete with the teacher rather than assist him in fulfilling his role. Improved public and teacher understanding of the role and value of audiovisual and other technological tools would be of benefit.

In the meantime an effective system of grass roots located media centers may be the best way to provide access to information and materials as well as to obtain access to teacher beliefs and behavior. (See Chapter, USOE Need Assessment and Information) The design should include a training capacity to provide the teacher and other support personnel the skills needed for an optimally functioning system. Such a meeting place should be convenient, attractive and informative, all of the values we hope teachers will use in conveying materials and learning to their students.

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
1. Material or equipment overused briefly as a fad and then seldom used again.	Proper use of materials and equipment at appropriate times.	Integration of media use into the curriculum.	The use of media as an effective learning tool.	Support of programs undertaking the integration of media into the curriculum.	Regional, state and local Educational Services Centers and Task Force on standards and criteria.
2. Distance of individual schools from central media facility.	Find a way either to attract teachers to central facility or to decentralize system.	1. Use of Media Center for meetings, in-service training during school time. 2. Mobile vans to supplement Center and transport selected materials and equipment to schools. 3. Set up media facility in each school.	Reduce distance-both real and psychological-between central media facility and schools.	Support and develop programs for: 1. Use of media centers on school time. 2. Mobile units as an arm of Media Centers. 3. Development of individual school IMC's.	Regional, State and Local Educational Service Centers.

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
3. Lockstep curricula which make the demand for particular materials fall during the same time periods.	Flexible curricula with room for teacher discretion and individualized instruction.	Development of new curricula.	Learning around individual points of interest - proper use of materials.	Support improved booking systems, more frequent deliveries, decentralized IMC's.	Regional, State and Local Educational Service Centers.
4. Slow delivery of films and other materials.	Faster system of delivery of films and other materials from central source.	Automated booking systems, day and night truck deliveries, decentralized IMC's.	Use of materials at educationally effective moment.	Support improved booking systems, more frequent deliveries, decentralized IMC's.	Regional, State and Local Educational Service Centers.
5. Split between print and non-print materials increased by housing separately.	Housing of print and non-print materials in a single resource center.	Services of both librarian and AV specialist needed for single resource center, in individual schools	Integrated resource center.	Support of establishment of individual IMC's and the employment of librarians and AV specialists.	Regional, State and Local Educational Service Centers.

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
6. Teacher-made materials generally more expensive than those commercially prepared.	Adequate supply of non-print materials without relying on teacher produced.	Access to materials either on premises or through Media Center.	Opportunity for full educational experience including non-print materials.	Support of programs for purchase and delivery of adequate non-print supplies, leaving teachers to produce materials out of preference rather than out of necessity.	Regional, State and Local Educational Service Centers.
7. Teacher resistance to letting materials out of their hands to share in school IMC.	Well equipped IMC's in individual schools with well worked out packaging and circulating system.	Budget for equipping individual IMC's as well as space and staff to operate.	Building teacher confidence in storage and retrieval system for non-print materials	As above-support establishment of individual IMC's and the employment of well trained librarians and AV specialists.	Regional, State and Local Educational Service Centers. Training programs for librarians and information students.
8. Sufficient number of trained personnel to serve as media specialists in individual IMC's as well as funds to hire them.	Trained media personnel and a budget to support hiring them.	Training programs for media specialists. Budgets to cover hiring of media specialists for individual schools.	Effectively conducted IMC's in individual schools.	Support of media training programs and the employment of media specialists in individual schools.	Regional, State and Local Educational Service Centers. Improved training programs.

THE PRIVATE SECTOR

Non-Print Industry

Current Conditions

I. Planning, Policy-Making and R&D In Industry

Industry bases its planning and R&D on the extensive market research and need assessment information which was described at length in another chapter. Corporate level planners coordinate all the information from a network of human contacts as well as from statistical analyses and surveys. Ideas for new products and needs come from in-house staff, consultants (mostly university people), detailmen and industry-paid consultants to the user, dealers (in the case of hardware companies), seminars with innovative school systems, intrastate compacts and regional laboratories and similar research and development agencies.

Many large companies do not want to tie up money, time and personnel in basic research and production. They stimulate others and contract with others to create materials, then they spend their resources on adapting and marketing materials. Both software and hardware companies support universities' R&D of materials according to company specifications and use lab schools for testing and development work.

Although most companies do not conduct much basic research, there are exceptions. One large publisher often replicates Office of education research or at least relates its research to studies funded by the Office of Education.

II. Marketing

A. Informing the User
B. Interplay of Goods and Services
C. Physical Distribution

A. Informing the User About the Product

Industry combines high pressure and low pressure information dissemination using a variety of complementary methods. Industrial representatives are quick to point out that salesmen are by far the most effective agents for informing the user, with catalogs and brochures following close behind.

1. Catalogs

A large company may distribute 35-40,000 catalogs by mail annually to superintendents, principals, department heads, subject supervisors, curriculum specialists and certain target teachers. Even then requests are received for more. The catalogs are organized by media and often companies send out smaller catalogs to accent certain curricular areas.

2. Brochures

School users report that industries are leaning more and more heavily on brochures or flyers to supplement or replace parts of their catalogs, which are so quickly out of date. The brochures are specialized according to specific curricular areas and subjects or are addressed to solving specific problems indicated by their need assessment.

3. Centralized Directories

In addition to their own catalogs and brochures, many industries make use of large directories or indexes published by non-profit or commercial organizations. Some directory services rely on educational subscriptions for support while others derive their income from industrial fees and advertising.

Some companies do not use these more comprehensive directories for a variety of reasons. First, they do not want their products listed next to a competitor's; they prefer to center the user's attention on their own advertising and materials exclusively. Secondly, some publishers are successful with their current methods of informing their market and see no reason to change. Finally, since almost all companies issue their own catalogs, the cost of subscribing to another catalog seems unrewarding.

4. Workshops and Seminars

Through the training workshops and problem-solving seminars that many large companies conduct, educators are informed about commercial materials. These include NAVA trade fairs for schools.

5. Conventions

Building-level exhibits, as well as exhibits at national, state and local professional and trade association meetings and conventions are a common method of information dissemination. It is assumed that the "gatekeepers" of education are those selected to attend meetings and conventions.

6. Trade and Educational Journals

Not only do they advertise in magazines and journals, but industries automatically furnish publications and other organizations with new materials for preview and review.

7. Sending Materials for Preview

One of the most effective methods of informing the user of a commercial product is to sent him the product, solicited or unsolicited, for preview. Industry has found that teachers are assisted in making a decision by seeing and touching the materials.

B. Marketing - Interplay of goods and services

Industry approaches the educational market in a variety of ways - some direct, high pressure methods and others indirect, low-pressure. We have already seen this illustrated in the many ways industry informs the market. The larger companies combine sales through a "detailman" with consultation and training before and after sales. They may provide consultants, workshops, seminars, teacher's guides and curriculum guides. They may coordinate media with well known print materials on the market. Industry realizes that it is not enough merely to inform the user and make materials available to him. He must be motivated to use them and to buy more and this necessitates showing educators that materials and equipment are easy to use, that they will make educators more skillful by supplementing their abilities. Teachers must be reassured that media will not replace or even diminish them.

A description of "detailmen", how they work and who they contact and a description of consultant activities and other services may illustrate why they are so essential to successful marketing.

Salesmen

Every software company interviewed indicated that the salesman is the most important factor in successful marketing to schools. Since the lead-time for a sale of films to a school district may be as long as 18 months, the salesman has the most intimate and continuing contact with school users.

The salesmen are, with few exceptions, former educators, usually elementary and secondary teachers; some keep in even closer touch with the classroom by substitute teaching occasionally. Many of them are curriculum experts and all must be professional in their knowledge of the development of the educational material. A good salesman also has a refined understanding of the decision-making process in education.

Salesmen have the most intimate and continuing contact with school users. They contact all levels of a school system, from the superintendent and principals to AV Directors, supervisors, department chairmen, and teacher selection committees, but especially the curriculum specialists. Supervisors and principals are important to contact for protocol reasons and AV Directors are important because they can veto purchases if any cutting must be done. The grade-level supervisors and department chairmen and most of all, the curriculum specialists, however, have the most influence over purchasing decisions.

Salesmen are successful for several reasons. Some schools rely entirely on commercial representatives for information about materials, for evaluation and for teacher training. They turn to the local salesman of a large company because they know him, he is accommodating and he is always available. Many teachers, principals, IMC directors, etc. who do not have time to evaluate and preview many commercial materials, depend on the guidance of the salesman. He directs school buyers to the materials most appropriate to their needs, he tells them which materials are old or need updating, and what items have been popular. At no charge, he will give them advice on setting up a basic film collection and will give demonstrations on evaluation and utilization of materials or equipment and on production of materials. As a result, educators may do all of their annual purchasing from him,ignoring some better but less available sources. One school system with federal funds to set up a film collection bought 500 films from a single company. The county educators were simply unaware of other film sources and teachers were delighted because they could get films overnight for the first time.

Consultant Services

In addition to salesmen who may double as consultants, many large software companies offer separate consultant services to school districts that have already purchased their products or who are potentially substantial purchasers.

As a rule, consultants never actually make sales. They are specialists in specific subject areas and as ex-teachers or other specialists they work with supervisors and hold teacher conferences to coordinate their company's materials with specific local programs and problems. In addition to custom-tailoring packages of materials for users, they also conduct teacher-training workshops and seminars with curriculum directors, teachers, and administrators to demonstrate how to integrate materials into the curriculum, especially in remedial areas. Workshops of this kind have been very popular with schools and requests for consultation on specific problems such as reading far exceed the supply of industrial consultants.

With the total integration of media into the curriculum of the more sophisticated school systems, industry is offering new types of consultation. Many systems and techniques are transferrable from industry to education. These include long-range planning, systems analysis and future forecasting. Several industries, including educational management consulting firms as well as large integrated education companies which market entire software and hardware systems, have volunteered their services to innovative school districts. Industry is assisting at least one school system in developing systems and training teachers in classroom management, media management and differential staffing.

C. Physical Distribution

Whereas small software companies handle most of their distribution through dealers or distributors. most large companies have given up using dealers. Forced to divide their attention among many different companies' products, dealers cannot reach the user as effectively as a salesman can and dealers do not give industry vital feedback about user needs.

Hardware producers almost always use dealers for distribution. The dealer's effectiveness is ensured through continuous contact with and training under the company market specialist who is in charge of all the dealerships in the region of his field office. The dealers may or may not be exclusive dealers for given equipment and may handle one or more product lines. It is difficult at this time to discern why dealerships continue to be used by equipment manufacturers and are less popular among software producers. The clue may lie in the more frequent user need for guidance in the software market.

III. Summary of Success Factors of Industrial Marketing

Profit Incentive - The profit motive operates at almost every level in industry from corporate policy-makers to salesmen. It does not allow industry to operate passively at any stage from R&D to utilization and feedback.

Market Research, Planning and Policy-Making - Market research information is tapped from every sort of contact with users- by salesmen, consultants, teacher trainers, distributors, etc. Planning for R&D and development is extensive and incorporates all available market research information gathered during research , development, field testing, dissemination and utilization.

Quality Materials - Although there may be room for improvement in commercial materials, success depends on maintaining some level of quality control- both technically and educationally.

Salesmen - The salesman is first on industry's list of success factors.

Motivation of the User - Through consultant services and training, industry enables the user to utilize commercial materials more effectively and ensures repeat sales.

Quick, Reliable Physical Distribution

Aggressive Information Dissemination

IV. Industrial Marketing Problems

Industry faces lack of money, training, motivation, time and energy in the schools. Although a great deal of money is spent on education, the educational materials industry has found that it has stern competition from salaries, capital expenditures, maintenance, etc. Schools also lack the urgency or the money necessary to hire personnel to handle media and information and to release teachers to plan, preview and evaluate materials. Few teachers are now involved in evaluating or in purchasing materials they do have. Another inhibitor of use is lack of immediate access to materials in schools.

One problem area that many industries cited was that of "informing the user". A company which sends out up to 200,000 catalogs, for example, reaches only half the people it would like to reach. Most of the industries responded enthusiastically to or suggested the need for some central source of information, some industries would also like a minimal evaluation function- to classify materials according to the most appropriate types and levels of use and users. Industry representatives interviewed suggested that either the Office of Education or some other agency perform this function. They stressed however that evaluation should not be made on the educational value of the material. There appears to be awareness that difficulties in locating appropriate materials and the decision-making process are limiting what should be a much larger purchasing power.

V. Education's Needs in the Industry-Education Marketing Interface

The sharp rise and subsequent decline of federal money to purchase non-print materials for schools, plus the trend toward mediated instructional systems, has accentuated the glaring need for standards and guidelines for evaluating and selecting such materials. The example of the school system who responded to the advances of the first company that approached them by requesting an entire film collection is not an isolated case.

Just as important as guidelines for evaluating materials is the need for information about and contact with materials from multiple sources- commercial or otherwise.

Schools also need guidelines and money for hiring personnel who can facilitate dissemination at the local school level and who can improve the quality of communication between education and its sources of supply. Released time for teachers is another prerequisite to improving such communication.

Summary of Marketing Needs and Implications for OE

Educational non-print materials cannot be marketed like refrigerators or even like textbooks. Their marketing cannot consist of scanty conventional advertising in journals and a passive dissemination system consisting of an unspecialized distribution house to which users are expected to address their needs, voice their requests and purchase their materials- with no other service or contacts before or after the sale.

Whatever dissemination system the Office of Education decides to use, there are several key criteria of success which are transferrable from industry to any marketing of educational non-print materials.

Criteria for Successful Marketing/Dissemination:

Active, intensive market research
Educational Resource Specialist
Consultants
Active information dissemination
Quick, reliable physical dissemination
Feedback system for evaluation of effectiveness of materials and dissemination system
In-house (in OE) evaluation system for weeding out materials
Quality control
Good quality materials appropriate to user needs.

Some of the above criteria require further detail, whereas others are covered thoroughly in other chapters.

Educational Resource Specialist

The Educational Resource Specialist is the key to success of any marketing operation, including any the Office of Education may set up. He not only motivates, informs and trains the user, but he is also an invaluable source of need assessment information and evaluation. As opposed to dealers and mail order distributors, the Educational Resource Specialist would provide the personal contact and service which is so essential in marketing to schools.

The Educational Resource Specialist should make himself available to and should maintain personal contact with a wide range of educators, including on the local level- superintendents, principals, curriculum specialists, department chairmen, AV Directors and teachers.

An Educational Resource Specialist must be familiar with the user and the context in which materials will be used, as well as the materials' adaptability. In evaluating the context of use, he must take into account social, demographic, economic and educational factors, including the type and sophistication of the instructional style, personnel (types and training), facilities, equipment, budget, etc.

After evaluating the needs of the user, he should be able to recommend appropriate combinations of materials, perhaps tailoring entire multi-media packages and programs for clients. Then he should have the skill to train school personnel to use the materials or to help in the development of such training. Follow-up should be conducted to make sure the training and materials are being used effectively.

Educational Resource Specialists would play a catalytic role, referring educators to relevant models or sources of information and materials. They would also provide appropriate educators with evaluation guidelines, criteria for selection of materials, guidelines on setting up a basic film collection or an IMC or any dissemination system for non-print materials.

Active Information Dissemination

Successful marketing depends on active information dissemination directly to the ultimate user as well as to all the gatekeepers between. Adequate information dissemination to educational users necessitates a balance of catalogs, detailmen, consultants, brochures on specific subjects or on clusters of materials designed to meet specific problems, as well as ads in journals and exhibits. Supplying the user with hands-on experience by previewing materials is also essential. The use of mobile vans with the function of providing materials, information, consultants and teacher-training may be one good alternative.

Quality Materials Appropriate to User Needs

Besides industry, some government agencies have demonstrated that materials of high quality and applicability will get used, despite some drawbacks in the dissemination system. Inappropriate low-quality materials, however, will not be used regardless of the dissemination system. (For recommended alternatives on quality control, refer to the Summary of the Chapter on Other Government Agencies). The gap between basic research materials and marketable or useable materials indicates the Office of Education should give much more support to applied research and should hasten to develop and modify what materials they have or weed out what is not applicable. Speeding up the process of getting materials into the hands of the user could involve helping industry to minimize risk in the development and marketing of materials. It might also involve making available to industry information on basic research materials ready for development and dissemination as well as other activities calculated to facilitate the application of R&D products to educational needs and their production and distribution to the user.

Marketing - Industry

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
a. Basic research materials are not being developed and used. b. Industry cannot afford extensive risk capital to develop materials.	Facilitating adaptation of appropriate research materials. Bridging R&D-to-dissemination gap	Effective division of functions between public and private sector.	Convince industry to develop, adapt and produce high risk materials.	Need to develop method for making optimal use of effective industrial commercial capability in behalf of Education.	Use copyright, improved information about government R&D and cooperative planning to provide more effective total dissemination system.
Duplication of basic research (industry, OE, other)	Communication between all research organizations.		1. Inform industry of OE funded basic R&D. 2. Keep informed on industrial R&D in education.	R&D information exchange between industry, OE, and all other educational agencies.	Necessary information system.

Marketing - Industry (2)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
Inefficient spending of money (including Federal funds) on media-related activities by local educators.	Improve effectiveness of utilization of educational funds.	Assist local educators in decision-making.	Improve decision-making skills. Base decisions on: --evaluation critiera --wide range of information on existing materials.	1. Provide evaluation criteria for materials, dissemination programs. 2. Provide guidelines on setting up IMC's basic film collection, etc. 3. Facilitate flow or information other than from commercial sources on available materials and services. 4. Encourage other agencies to evaluate educational non-print materials and disseminate to users. 5. Contractual qualifications for Federally-funded programs guarding against spending of Federal funds without satisfying requirements.	Task force on standards and criteria. Handbook on evalution and decision-making. Educational Service Centers with adequate consultation available. Training teachers IMC directors etc.

Marketing - Industry (3)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
Educators',teachers' inability and lack of motivation to use non-print materials.	Motivate and help users to use non-print materials effectively.	Educator motivation and skill.	More effective user/need assessment Consultation, Training Detailmen--educators --experts on development of materials --repeated contact with users --wide range of user contact Tailor material packagers, etc., to user needs	1. In conjunction with providing educators with materials and information, provide them with consultant services to help find solutions to their particular problem. 2. Provide training at many levels to enable users to maximize effectiveness of materials	Need assessment net Consultants and Educational Resource Personnel Educational Service Centers Contract Libraries Training System
Industry's inability (especially small industries) to adequately inform users about materials.	Improved information to users about quality commercial materials.		Collect information on appropriate commercial materials and inform the user.	Provide education with information about good materials that are now overlooked.	Educational Service Centers Consultants Educational Resource Personnel Contract Libraries

Industry - Laboratory Interface

The OE regional laboratories have contracted with industry to develop, produce and disseminate their materials long enough now for the inhibitors and advantages of their relationship to become apparent.

A. Advantages to Labs in Lab-Industry Interface

The advantages to the labs are several. The regional laboratories have neither the money, the mission, nor the facilities to produce more than prototype samples of materials, to develop materials to the point of being commercially marketable or to disseminate and market them.

One lab representative suggested the possibility of establishing a federally-funded non-profit dissemination corporation, but he pointed out that industry has the money and the expertise to market materials effectively and educators might trust commercial companies more than they might such a non-profit corporation. The experience of companies such as SDC and AIR should be explored, however.

B. Advantages to Industry in Lab-Industry Interface

Although industry shied away from producing lab materials with a few exceptions until they were evaluated and tested, they are beginning to see the advantages of contracting with the laboratories. One lab says industry is "clamoring" for their products.

One advantage a commercial producer/disseminator cited was that the use (and sale) of published materials is optimized when they are distributed within a system with the appropriate strategies and procedures, under the guidance of a lab.

Despite the potential advantage of a copyright in protecting the producer from competition, the fact that lab materials are in the public domain gives industry an advantage in their negotiations with the lab. They have much more control over these negotiations than they would have contracting for a copyrighted material. Furthermore, a representative of a company which is now producing lab-originated materials assumes the responsibility of the publisher to invest the risk capital necessary to reshape research products in the public domain into usable form. There is, however, an implied understanding that after that publisher takes the material from the public domain and invests heavily to develop it, he will then be able to copyright the revised material.

A final advantage to industry is the fact that several of the OE R&D Centers and Laboratories are rapidly developing some of the most promising innovative approaches to education in the country. Because they are not limited as industry is by the constraints of developing for a mass market, and because of their subsidized status, the labs can make constant changes in materials and test them immediately in classrooms in much less time than industry could.

C. Differences in Goals of Labs and Industry

This difference in the operations and missions of the labs and industry introduces us to the problems of their relationship. Although the laboratories' problems with industry are discussed more thoroughly from the laboratory point of view in the chapter on Office of Education Field Installations, a few might be mentioned here.

The difference in philosophy between the labs and industry is illustrated in an excerpt from the Annual Report of the Far West Regional Laboratory: "Technologists in industry, surveying the educational 'market place,' express concern about high costs today and low rate of profit tomorrow. But we ... are concerned with helping teachers help children today".

D. Inhibitors: Laboratory Point of View

Lack of control over what an industrial distributor does with its products after it leaves the lab constitutes a problem according to one lab representative. Consequently, some labs are reluctant to endorse their products after they are modified by industry.

Furthermore, most lab materials were developed as a part of a complete instructional system with dissemination techniques and criteria carefully worked out. Labs want some control over the conditions of the dissemination of their products, including for example teacher training, trained detailmen, evaluation and feedback, revisions of materials with accompanying re-training of teachers, etc.

The laboratories also lack the criteria and the mechanisms for moving materials that are ready for adaptation into the industrial stream. The public domain policy would seem to limit the capacity of labs and other government-sponsored organizations to prevent the premature use of materials by unethical producers, although this has not occurred thus far.

E. Laboratory Suggestions for Improvement

Ideally, labs have suggested that they would like more control over the adaptation and dissemination of their materials through contracts with industry. They would also like to issue requests for proposals to industry requiring industry to specify what dissemination effort it plans.

Several labs and R&D centers expressed the need for a more effective, active way to inform industry of available materials.

One R&D center suggested the need for an OE "intermediator" who would actively advertise lab products which are ready for wider dissemination and who would work out mutually satisfactory contracts between labs and industry. He would facilitate the marketing of products ready for dissemination and would prevent the marketing of those not yet ready.

F. Inhibitors: Industry Point-of-View

From industry's point of view there are many inhibitors to their developing, producing and disseminating lab products.

1. Lack of Copyright Protection

Labs, R&D Centers and industrial units interviewed all stressed that no efficient industry would expend the time and money to develop and disseminate materials without more than a five-year limited copyright. (See the chapter on Copyright for more discussion). The possibility, discussed above, of copyrighting the revised material provides an alternative but this may cause problems with the authors of the material, ie. the labs, and many risks remain.

2. Unsuitability of Lab Materials for Commercial Marketing

With few exceptions, lab materials need a great deal of further development before commercial distribution, according to both industry and the laboratories themselves. Even though the materials may prove extremely effective in the laboratories' testing and demonstration schools, they may not be ready for a mass-market. Lab schools do not represent the majority of schools in the country, lab-school teachers are not representative of most teachers and conditions of supervision and consultation are not the same.

Furthermore, several laboratories have included or combined a variety of commercial materials or alternatives. The lab instructional systems are not necessarily composed of packages of original materials; often they are systems for decision-making, enabling the user to purchase commercial materials as he chooses to perform certain functions. These methods are not easily marketed.

Finally, few firms are equipped to market large packages of print and non-print materials such as the labs generate.

3. Lab Requirements vs. Commercial Requirements

One industry which had been approached by several labs to produce and disseminate materials turned them all down. Not only did they lack copyright protection, the company's president said, but the labs imposed many stipulations in the proposed contract over the marketing and dissemination process. For example, one lab wanted to control the number of salesmen the distributor would have for materials, the training of the salesmen, all revisions of the material, etc. The company pointed out that such requirements were unfeasible from a business and a financial standpoint, especially without the promise of a mass market. This interviewee suggested the need for contracts giving industry more control than the labs are now willing to allow during the development stage and during marketing, training of salesmen, and in making agreements with authors over revisions. It should be noted that this same company has made mutually satisfactory arrangements with one laboratory to develop and market materials produced under a foundation grant.

4. Lack of Risk Capital to Develop Materials

First, industry is not prepared to invest the large sums of risk capital needed to convert educational research products to marketable products without 1) copyright protection, 2) control over marketing, etc. through contractual agreement, and 3) risk capital from other sources.

One industrial executive felt that educational institutions, including labs, R&D centers and universities, should do basic research on educational materials but that industry is better geared to do the major applied research and development necessary to make educational materials marketable. He maintained that educational agencies did not have the facilities, the marketing expertise, the incentive or the knowledge of local user needs that industry had.

Several large publishers indicated that they would like outside support to provide capital for development of high risk innovative materials.

Summary of Implication of Lab-Industry Interface

The OE Regional Laboratories' relationship with industry represents an area in which a little intervention from OE would go a long way toward helping this union develop to its fullest potential as a mechanism for getting good basic research materials into the classroom.

Although the roles and functions of the R&D Centers, Labs, and industry need more definition and compromises must be worked out, several lab-industry arrangements show promise as models for the future. The relative youth of the laboratories allows them to attempt innovations in education as well as in their relationships with industry. They may be brash and demanding at times but they are also proving to be attractive to industry.

For detailed needs and implications, refer to the chart on the Industry-Lab Interface. To summarize, in implementing its policy of facilitating the flow of appropriate quality materials into the hands of the user, one alternative is to act as a catalyst between labs and industry. From industry's point of view, beneficial interventions would include:

1. Ready access to information about OE-funded materials ready for production as well as information about user needs and trends.
2. Minimizing of risk arriving from development of marginally profitable lab materials and other OE-funded materials.
3. Copyright protection during development and dissemination; this would be one way of minimizing risk.
4. Contractual leeway, to accommodate industry's financial and marketing styles and constraints.

The viewpoint of the Laboratories is described in the chapter on the USOE Field Installations and the Summary Chapter of the Report.

Industry - Lab - OE Interface

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
Lack of active information channels to inform industry of lab products available for dissemination.	Communication system	Inform industry of lab products ready for development and dissemination.	Facilitate the production, dissemination and utilization of OE funded materials.	1) Monitor all new lab materials ready for production (through OE form, etc.) 2) Prepare attractive written and pictorial presentations informing industry of these products; send samples. 3) Arrange presentations of the materials via conference, demonstration, etc.	Need Assessment and Information Net OE Mediator between labs and industry
Lack of clear-cut policy mechanism controlling the decision of what lab materials are ready for production and which should be retained for further Research and Development.	1) Policy to decide what materials are ready for production. 2) Mechanism to institute movement of materials through to production. 3) Policy and mechanism for preventing commercial production of materials judged not ready.	Develop criteria for evaluation and decision-making.	Get appropriate quality materials as quickly as possible from basic research into the hands of the user.	1) Assist labs in defining policy on marketability of materials. 2) Provide legal counsel and mediator between labs and industry to facilitate and inhibit production of materials as appropriate to their readiness and the needs of education.	OE Mediator between labs and industry Development of criteria for evaluation of materials and assessment of need.

Industry - Lab - OE Interface (2)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
Industry is reluctant to invest risk capital in development and dissemination of materials in the public domain.	Need for copyright protection for industry during development and dissemination of OE-funded materials.	Give industrial producers security and incentive to produce materials through copyright protection.	Facilitate the production and dissemination of OE-funded materials.	Modify copyright policy to other than 5-year limited copyright (See copyright chapter)	Modify copyright Study alternative protection for high-risk investment. Produce materials in-house (government).
Industry cannot afford the high cost of developing innovative lab materials with possibly limited mass marketability.	Assist industry and give it an incentive to develop and market lab materials.	1) Minimize risk for development of materials. 2) Provide alternative system.	Facilitate the production and dissemination of OE-funded materials.	1) Insure risk development of lab materials. 2) Provide alternatives and adequate distribution system.	1) Develop system of risk-sharing with industry. 2) Establish non-profit agency to produce and distribute high risk materials. 3) Provide adequate government distribution system for free distribution (could require government production of materials.)

Industry - Lab - OE Interface (3)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
Industry finds lab contractual demands and desired controls over marketing and dissemination restrictive, financially and otherwise.	Through contractual incentives, encourage industry to produce OE-funded materials.	Arrange compromises in lab-industry contracts to allow for industry's financial and marketing constraints.	Facilitate the process of getting appropriate basic research materials into marketable form and into the hands of the user.	1) Advise laboratories contracting with industry on compromises to give labs certain controls over the dissemination of materials while serving industry's requirements as much as possible and assuring availability of effective materials. 2) Examples of areas of needed compromise: a) Number and training of salesmen. b) Method of marketing c) Amount and type of testing, monitoring, and feedback. d) Development and revisions of materials. This advisor capacity might be performed by an OE representative.	Establishment of sound requirements for quality, dissemination and utilization. OE Mediator between labs and industry.

Industry - Office of Education Interface

I. Industry Attitude to Office of Education as a Producer and Disseminator

Although commercial producers of educational materials have made use of materials in the public domain from several other government agencies, they have made very few bids for Office of Education materials.

A. There are several reasons for industry's inattention:

1. Industry is unaware of OE-funded materials. Unlike some government agencies who actively encourage industry to use film-footage and to make revisions of available materials, the Office of Education does little to even inform industry of materials produced with their support. The responsibility is left to the individual researcher who may be unconcerned about dissemination or unaware of the best methods for its achievement. Also the correlation between R&D skill and marketing know-how has not been measured.

Even large conglomerate companies lack the staff and the channels to obtain thorough information about government materials, one executive reports. He explained that despite his corporation's huge staff it is still difficult to access and utilize even their corporate in-house information.

2. Lack of copyright protection. The unfamiliarity of several industries (large and small) with Office of Education copyright regulations and their unawareness of the more recent limited OE copyright reflects their disinterest in Office of Education materials. (See Chapter on Copyright)

3. High cost of developing materials generated by OE-funded research to the point of marketability. (See Industry-Laboratory Interface section)

B. Competitive threat:

Regarding the Office of Education as a disseminator, one industrial representative remarked that industry is concerned about competition by free or inexpensive OE-produced materials, but does not consider their quality or their dissemination capability to date good enough to be a threat.

Without exception, industry emphasized that the Office of Education should solicit bids from commercial producers and distributors to take over the production and marketing of their materials. They supported commercial distribution as a practical alternative because according to industry:

1) a profit incentive is necessary for effective marketing;

2) schools prefer to pay extra for a salesman's services rather than having to seek out government materials themselves; it is the same principle by which the public purchases commercially published versions of the Warren Report rather than buy the GPO version at much lower cost.

3) active dissemination or marketing of Office of Education-supported materials might constitute competition with industry unless the dissemination were done through a contract with industry after competitive bids.

II. Types of OE Interventions Actively Desired by Industry

Industry wants the Office of Education to intervene with need assessment information, money and policy to facilitate commercial dissemination. As a catalyst, the Office of Education would:

A. Provide industry with information on education's needs.

B. Give grants to a central information resource for educators on where to find materials. One company suggested that a National Council might perform this function.

C. Give support to AVCOM '70's (Audiovisual Communications in the 70's)

Several materials and equipment producers have been meeting with representatives of government and non-profit professional associations to develop methods for assembling an effective base for data on audiovisual materials. There has been much pressure on OE and the Department of Commerce that one or the other support the project.

D. Criteria and evaluation for catagorization of materials according to grade level, etc. Industry stressed that no value judgments should be made about specific materials.

E. Enforce copyright law in schools. (See Chapter on Copyright)

F. Make OE copyright regulation more appropriate to industry's needs. (See Chapter on Copyright)

G. Intervene to support federal legislation to set standards and guidelines for state procurement practices. An executive of a large corporation stated that industry will not long stand still for politically oriented procurement awards by states. It is felt by several publishers that the unsophisticated low-bidder approach is equally poor because it lowers the motivation for producing quality materials.

H. Desired forms for federal support

1. Risk capital for industrial development of materials.
2. General subsidies to education as well as funds for schools to purchase materials and equipment.
3. Grants to industry for joint projects with schools and universities. ("Saturation" projects in which equipment companies, software companies, a university evaluation team and local schools cooperate).

(For further details on the effects of federal funding, see the section on Edonomics and also Industry Implications.)

Marketing Research

Market research by non-print educational industries may be defined as including research into what educators need, what educators want, and what educators will buy, both now and in the future. Market research also includes the assessment of the supply of competing products or services.

This assessment of need and demand involves analysis of the consumer's attitudes, prejudices, decision-making processes, motivation, and it also involves sociological, demographic and economic analysis to determine the purchasing-probability and potential purchasing power of the educational consumer. Finally, need assessment entails educational analysis, i.e., analysis of the curriculum trends and needs of various segments of the education market, including training necessary for utilization.

Thus defined, market research may be done before production in the research and development phase; after production, in the field testing phase; and after marketing, in the evaluation phase.

There is a wide range of market research methods used by the non-print education industries, hardware and software producers and distributors. The techniques vary from formal to informal and may be carried on in-house or farmed-out to contractors. The differences between methods used by software producers and hardware producers will be delineated as we proceed.

The following is a description of industry's market research techniques, the people conducting the research, the types of information sought, and the sources of that information, in the context of market research objectives.

Most of the industries sampled used a combination of in-house market research and external sources of research. Even the largest educational non-print software producers did not have extensive formal market research divisions. Their human sources of information usually consisted of one or more staff educational advisors, external educational consultants and collaborators, dealers (in the case of hardware companies, especially) and salesmen.

A. Need Assessment

The assessment of what education needs and of what education will buy includes research done before production, during field testing and after marketing. However, since a film may cost from $30,000 to $50,000 to produce, most market research is done before production.

1. In-house market research staff

The research staffs of educational non-print software producers may vary from one Educational Advisor or Marketing Manager to staffs of 70 or more people.

Even companies with large staffs usually have a full-time staff Educational Advisor who spends most of his time travelling around the country, attending conventions, making as many personal contacts as possible with university curriculum experts, innovative school systems, Office of Education Regional Laboratories and R&D Centers, state departments of education and intra-state cooperatives.

An in-house staff usually conducts exhaustive studies of curriculum trends and books, keeps in touch with consultants in the field and may conduct personal interviews to survey a particular need.

Although most companies prefer to obtain information through their network of human contacts, they also conduct mail surveys on where money is being spent now, what trends in buying emerge, and what materials, subject areas and content educators want, etc. Questionnaires may be sent to all levels of education, often on a specific problem area, but no industry interviewed would be specific about the samples used, the people interviewed, or the questions asked.

2. Consultants and Collaborators

A major source of information on needs and trends in education is the educational consultant and collaborators working on films or materials. The great majority of these consultants and collaborators are from higher education, but industry is beginning to use more master teachers, curriculum specialists, and superintendents from all levels of education and from different geographic areas. The regular classroom teacher, however, is rarely called upon. Consultants may meet with a company several times a year and continue to feed back information on a regular basis.

Besides tapping a regular advisory committee of consultants and collaborators, industry is beginning to go out to innovators in education to plan for the future. These innovators may include OE Labs and R&D Centers, school systems and intra-state cooperatives.

3. Salesmen/Consultants

Every software company interviewed indicated that the salesman is one of its most important sources of market research information. Since it may take as long as 18 months to complete a sale of films to a school district, the salesman has the most intimate and continuous contact with school users. For smaller companies, he may be the only market researcher employed.

Salesmen contact all levels of a school system, but the grade-level supervisors and department chairmen and most of all, the curriculum specialists have the most influence over purchasing decisions. As AV materials become less of an enrichment and more a basic teaching medium and as schools demand that commercial materials be more closely attuned to their curriculums, curriculum specialists are naturally becoming a focal point for commercial market research on the local level.

Many of the larger software companies feel they must have a cross-contact, besides sales, to keep aware of user needs. So in addition to salesmen, most companies have consultants who get valuable information on needs, trends and problems through training workshops and seminars. They are able to get some perspective by dealing with a spectrum of educators from teachers to administrators and curriculum apecialists.

4. Dealers (for hardware)

Although most large software producers no longer distribute through dealers, hardware producers depend heavily on dealers for both distribution and feedback from personal contacts with users. The success of the feedback system from dealer to corporate level depends on the market specialist. He may be in charge of all the dealerships under his field office in a product division. He keeps in touch with dealers on a daily basis, conducting seminars and workshops for salesmen at his field office, and often riding with salesmen on their rounds.

5. Other Sources

Other sources of user need information that industry taps are conventions and professional associations. Industrial representatives attend conventions on all levels in education and on all subject areas. They go to such associations as the National Association of Science Teachers, and the American Association of School Administrators and the Greater Cities Research Council to research needs and trends. One company that asked the Office of Education about material needs in certain problem curriculum areas found few communication channels open.

While it is likely that a fair amount of knowledge exists in OE about the needs of specific sectors of education, it seems to be difficult to mobilize this need for purposes of informing industry, the university or other interested parties. While the government should not do industry's market research, it may nevertheless be useful to have within USOE some publicly available formulations concerning priorities in education.

6. Market Research During Field Testing Stage

Although the heaviest portion of market research is done before production, most software producers do some field testing and hardware producers do a great deal of field testing.

Some companies have teachers in their consultant network test materials in their classrooms. Others have affiliations with universities and use the university's lab schools to develop and test their materials. The company that tests its products in an actual classroom with regular classroom teachers is the exception. The development of instructional packages of materials and of instructional systems, both hardware and software, necessitates more testing and validation over a longer period of time. The purposes of field testing include discovering new uses or contexts for materials, identifying other potential audiences and isolating needed revisions in the materials or equipment before marketing.

Another field testing technique , used by equipment producers, is to work with users to meet specific needs and then to expand successful products to similar markets with similar needs and facilities. A language laboratory designed for one university may be equally appropriate for others.

A less formal method of field testing is a by-product of joint industry-school projects, often incorporating federal funding. Several industries have saturated schools with materials and equipment either free of charge or on a low cost basis on an Office of Education grant. A university evaluation team provides feedback on the effectiveness and popularity of materials.

7. Post-Marketing Research

Except for sales analysis and analysis of the number of service calls on equipment, industry has very few formal channels of feedback from users. Software producers automatically provide their new materials to professional journals and magazines for feedback through reviews and evaluations and enter them in film festivals. Salesmen give the corporation feedback from schools' reactions after previewing materials. Several large companies will allow users to trade in films which are not frequently requested, in exchange for more relevant films for their collections. In one year alone, a large state resource center traded in 150 films. Such a trade-in arrangement is a valuable source of information leading to improved distribution of materials.

II. Assessment of Buying Potential

Industry utilizes many statistical indicators of users' ability to purchase their products and the probability of their doing so. These indicators include sales analysis, geographical sales distribution, per/pupil expenditures, student population concentrations, how school bond issues were voted, what federal funding trends are and where funds are going. As one example: the proportion of a school's budget that is devoted to an administrative data processing system and the sophistication of that system is one indicator of the school's potential acceptance of computer-assisted instruction. Of course, the studies of curriculum trends and purchasing patterns in the present are also used to project what schools are likely to buy in the future.

III. Assessment of Supply

One large corporation makes matrix charts of competitors' products--their content, and subject matter. Once they see what materials are available the gaps become clear.

Market specialists in equipment companies are sensitive to other products their dealers must also sell. Conventions and contacts with users are other informal channels for assessing the supply of competing products.

IV. Other Organizations Tapped By Industry for Market Research

Other organizations that do market research for industry on a contract basis or as a service are: educational consultant firms, market research firms, trade journals and educational publications, universities, government agencies, educational and professional associations, and trade associations.

The Office of Education gathers other sorts of national educational statistics, but not in the audiovisual realm. The Office has some hard data on how NDEA funds were spent, but the information is segmented into subject areas--math, science, etc. and AV expenditures are inserted into these categories.

There is no overall survey by either industry or education now in existence on supply and demand of non-print materials in schools. One of the reasons is that there is little hard data available, because schools are not required to break down their expenditures to record how much they spend for AV materials and equipment. A second barrier to such data-gathering is the lack of a recording system or standard bookkeeping system for this information on the state or national level.

Furthermore, schools resent having to provide information and their cooperation depends on the nature of the data-collecting organization, and what channels that organization uses. Schools will provide their states with information sooner than they will provide a national education agency with it. Anyone seeking data from schools has more success if he goes through the state department of education, if information is solicited on a voluntary basis, and if researchers make personal contacts.

The broad survey and questionnaire research technique has not proved to be outstandingly successful when applied to schools. One trade magazine sent questionnaires on the breakdown of funds spent on instructional materials to 3000 school districts. About two-thirds returned the survey but only 600-700 replied with sufficient detail for computer processing of the data.

A description of the market research done by the different types of organizations will clarify the successes and failures of each.

NAVA: The National Audiovisual Association depends for its need assessment information on DAVI, the state departments of education and surveys conducted by trade magazines and other organizations. They keep tabs on all federal funds allocated for AV material or equipment and they conduct occasional surveys themselves on supply of materials, etc. They provide such information to their members and will sell reports to others. Information is obtained about trends in the use of AV through trade fairs they sponsor to demonstrate members' equipment and at meetings to which they may invite 50 teachers and supervisors to discuss needs. The Educational Materials Producer's Council which was formed this year within NAVA is concentrating on Inner City needs.

NAVA once included a question on the cost of market analysis in a cost-of-doing-business questionnaire it sent to members. There was a poor return and members thought it was ineffective and that the question was not relevant.

Member industries are not willing to reveal their own sales figures, yet they want to know how much schools spend on specific items and schools are not providing this information.

Councils with varied interest groups: Such councils as the Greater City Council, the Educational Media Council and the American Educational Publishers' Council provide forums for the exchange of information on needs.

NEA/DAVI: DAVI has published some of the most extensive surveys on supply and demand and use of media in the schools, (itemized dollar figures not included) yet it does not have the resources to update them or to collect such information on a regular basis. DAVI issues an updated list of selected references for information on AV equipment and materials in schools, including industry, education and government. NEA has made only one research effort in assessing need in the AV area, based on one question which was included in their annual teacher opinion poll in 1967. No follow-up is anticipated.

Department of Commerce: The Department of Commerce this year published a bibliography of AV sources of market information on AV materials and equipment.

Market Research Firms: Marketing research firms have just gone into the educational field in the last few years. Some of these companies will sell reports to anyone. Often the best reports, however, are done confidentially for companies and are not for sale. The industries interviewed were extremely reluctant to discuss the nature of the research they conducted or contracted out. The research they do covers everything from measuring schools' acceptance of educational technology to measuring audience emotional response to a film by the temperature of their fingertips. One company is considering mailing out questionnaires and requesting recipients to phone in the answers any hour of the day or night to a national phone number. Operators will tabulate the results immediately to be processed by a computer and printed results would be available overnight.

Critique and Conclusions

Knowledge of the potential market is vital to the availability of an appropriate supply of materials when and where needed. Successful market research depends on two parties. On one hand, industry must seek out information from schools and users and on the other hand, schools must communicate their needs to industry. There is room for improvement on both sides of the relationship, as the following description of industry's stated market research problems, schools' criticisms of industry's market research and their suggestions for improvement will illustrate.

OE will not be effective until it makes some effort to obtain a more valid picture of the need and demand as well as the supply of materials. This is needed for OE's own production or dissemination as well as improving education's communication of its needs to industry. In its own need assessment, OE would have to contend with many of the same problems industry faces. However, its unique position will have many advantages and a few disadvantages relating to Federal-State relations, etc.

I. Industrial Problems in Market Research; Implications for OE or for Education

Among the problems industry faces is the nature of the educational market to be researched, the question of who the actual consumer or user is, and whether or not that user's expression of his needs can be profitable to industry.

Fragmentation of the educational market-geographic, academic and fiscal fragmentation - limit industry or any producer/disseminator in researching school purchasing patterns, decision - analysis, attitudes and opinions of materials needed and motivation. The fragmentation of needs and demands by some educators would seem to make industrial market research geared to a mass market unfeasible. Some school districts claim that materials produced for one system using the behavioral approach are not applicable to others, even to other schools in the same system. They want total customization from industry.

The schools have not taken the initiative they should take in making their needs known to industry. Furthermore, most educators below the university level have not been trained to communicate with industry. Relatively few teachers are even on evaluation committees. They have little contact with materials before use and they rarely have a chance to give feedback after use. Classroom teachers as a rule are not given released time or other compensation for previewing, evaluating or communicating their views to anyone. The actual user of materials is rarely the buyer. Industry deals with supervisors and curriculum specialists or AV Directors, because they are the gatekeepers over what gets purchased. These professionals are frequently under heavy pressure from the purchasing and budget staffs who are often oriented to the "low bid" method of evaluation.

II. Educators' Criticisms and Suggestions

The degree to which industry's market research fails to lead to materials appropriate to user's needs is reflected in the schools' attempts to produce their own materials to fill the gaps and in their modification of commercial materials. Although many educators interviewed praised industry, gave industry credit for quality materials, and expressed their desire for industry to take over even more production of educational materials, many were vocal about industry's shortcomings to date.

Failure to assess need effectively:

One former school superintendent said industry's market research consists of: first, contending with competitors; second, researching buying characteristics of the consumer; and third, perhaps researching the most glaring needs of the consumer.

Among the educators' complaints was the need for more basic teaching materials rather than enrichment materials. Schools have to produce their own materials to teach the basic curricula because industry isn't producing them fast enough. It is impractical to purchase materials for only partial use. Some educators claimed that industrial films too often mirrored textbooks. A curriculum specialist summed up many of the information gaps between industry and local educators when she said, "the stylish people in industry are too stylish for the school systems."

Almost all the problems educators pointed out stemmed from the fact that industry is not involving itself in market research at the grass roots level. Educators agree that schools cannot now express what they want, but complain when industry goes to university consultants who can express themselves but who do not represent schools' needs. University "experts" are not the users in most cases. Educators in state departments of education, local educators, and people in Office of Education Laboratories have all deplored industry's heavy dependence on university consultants. They are described as being too rigid, tending to stick to their own biases.

Educators around the country have offered many different suggestions on how to improve the market research information exchange. Many educators maintain that industry's products will become more practical if industry comes into contact with the ultimate consumer or user, who might be the classroom teacher, the student, and the community at large.

A former staff member of a large state department of education feels industry should start their research at the state level. He said industrial representatives constantly besieged the department with requests for state adoption of their materials. Although the salesmen claimed their company had gotten the advice of the best educators in the country and had already produced just what that state needed, the materials producers had never asked state educators what was needed. This is a good example of possibly effective research that has not involved the eventual gatekeeper, with consequent loss of confidence and good will.

It appears to be the consensus of school people that industry should also have feedback councils and curriculum councils which include teachers, specialists, even students and that field testing should be done less in university settings and more in local schools.

The extent to which teachers are involved in commercial material development and evaluation is unclear, but there are several possible methods for increasing their involvement. One avenue would set up more joint projects between local schools and industry.

Another avenue is through teacher education. Teachers must be taught how to work with the designers of materials, public and private, and how to define their objectives in order to communicate their needs. Some school districts said that if teachers were not involved in the creation of materials, they would not use them.

The majority of local educators agreed that industry must work directly with classroom teachers, not just with curriculum directors or supervisors during research and development. One R&D Director in a school system on the East Coast thinks teachers ought to be released for anywhere from three to six months to work with industry (or labs etc.) in developing materials. The teachers would then return to the school to help apply what they learned and developed.

Conclusion

There are signs that if educators can learn how to communicate their needs better, industry is ready for such input. If teachers and all other users learn how to conceptualize and communicate what materials should achieve, industry could produce them.

Schools feel that industry is much more interested in knowing what is needed than they used to be. They just have not made a successful connection yet with education. Word-of-mouth transmission of needs has not been adequate, but organizations such as DAVI, NAVA, The Aerospace Foundation and the Greater Cities program are slowly changing this by providing forums for information exchange.

Market research by education industries is by no means simple. There is at the moment a sizeable gap between what educators need, what they want, and what they will buy.

Summary of Market Research Needs and Implications for Office of Education

If the Office of Education is to succeed in meeting the needs of education through its own dissemination system or by intervening to make any dissemination of non-print materials to schools more effective, it must conduct or sponsor intensive market research.

Both local-level educational users and industrial producers have indicated that communication with the Office of Education is difficult and channels are ambiguous. The ultimate users, who may include local educators, teachers, students and the community, have neither the time, energy nor the channels to convey their needs to the Office of Education on their own. Industry would like information from the Office of Education on education's needs. While industry can and will undertake its own market assessment, this offers USOE and the states an opportunity to organize and interpret the expressed needs of education and derive from them more consistent national goals and priorities.

Office of Education market research would have several purposes: it is necessary for providing information to OE planners, policy-makers and R&D funders; it would also serve to close the gap between user's needs and commercial production.

The functions of OE market research would include:
Need assessment
Assessment of the supply of appropriate materials
Assessment of existing channels of information and materials
Assessment of the effectiveness of existing dissemination of
  information, materials, training, motivation of users, etc.

Need Assessment

A system for continuous feedback of need assessment information must be developed. It must be continuous along several dimensions in the dissemination system. Need assessment must tap data at all points in the research-development-marketing-use continuum. Information must be gathered from all levels of users in the system (state, regional, local) and from a sample of all role-players in the dissemination system (eg. salesmen, detailmen, consultants, trainers, information agents, etc.)

After such information on needs is collected and analyzed, it should be disseminated to all producers of materials, whoever they may be, as well as to Office of Education planners and funders of R&D.

Assessment of Supply

The Office of Education should also assess the supply of appropriate quality materials and services, not only generated on the commercial market but also any materials, services, dissemination systems and information generated with Office of Education funds. This information will, with the need assessment information help to determine discrepancies between supply and need, and to provide OE with a basis for decision-making on what programs to fund.

Details on the alternative structure, management and methods of market research by the Office of Education will be spelled out in the section on the Need Assessment and Information Unit.

DISSEMINATION
AND
UTILIZATION

The Intellectual Dissemination of Audiovisual Materials

The Situation and The Problem

Educators find out about audiovisual materials for classroom teaching or professional training in many ways. Some are formal, like catalogs; others, such as discussions between colleagues, are informal. Some are comprehensive - for example directories, and some extremely limited, e.g., lists of AV stocks in the school storeroom. All, however, are methods of intellectual dissemination and can be considered as technologies for the transfer of information about non-print materials. This chapter, then, will discuss information technology, but in its broadest sense: it includes all those methods whereby information about AV curriculum or professional training materials is transferred from producers through transmittors (often producer-transmittors such as commercial film companies) to users. It is not restricted to the more sophisticated technologies made possible by engineering advances - such as dial access - although it includes these.

The total system for evolving, distributing and using AV materials includes numerous steps, from original research through development and marketing. Information transfer occurs at all transmission points in the process. This chapter, however, will focus on information technologies functioning at the latter stages of the process: those that come into play after materials are ready to be adopted or adapted by school system users.

Although many types of educational AV materials (films, slides, kits, etc.) have been available for decades and have recently proliferated at an increasing rate, the application of effective information technologies to make them known to educators have tended to lag behind the requirements of the user. While effective methods have been applied, especially by industry, some serious inadequacies remain.

These inadequacies in the use of information technologies can be summed up in two apparently contradictory problems: too much information for the user, and not enough.

The first is the problem of the vast array. Too much information exists about AV materials for any one user - student, teacher, curriculum developer or in-service trainer - to process it without considerable help. The result is a lack of appropriate focus.

The second is the problem of inadequate information about the extent of materials available which might be useful. Not only does the amount of information about non-print materials exceed a single user's capacity to absorb it: educational users of all kinds find that they cannot turn to one system, or an integrated set of systems which allows them to scan what exists in the time they have. It is therefore often impossible for them to make well informed choices. The lack is a lack of an appropriate and manageable range of information.

In many cases there is not the kind of information the user requires. An elaborate description of a lengthy list of alternative films may not yield information about the grade level for which the information is appropriate or the kind of supporting material that would make the showing optimally useful to the class.

How Information Is Disseminated To and Within School Systems

There are four major ways in which information about AV materials is disseminated to educators in school systems:

- Documentation:
  - Listings:
    - Directories (e.g. NICEM)
    - Published Catalogs (NAC, Industry)
    - In-house Catalogs and Inventories
  - Special Emphasis Techniques:
    - Newsletters
    - Flyers
    - Advertising
    - Professional Journal Articles
- Demonstration Alone:
  - Unmanned displays
  - Previewing catalog-ordered materials
  - Previewing depository materials
  - Card catalog slide illustrations, filmclips
- Personal Contact Alone:
  - Discussions between colleagues
  - Seminars
  - Services of some specialized personnel:
    - Librarians
    - AV coordinators
    - USOE Regional Office staffs
    - Dealers and salesmen
- Personal Contact Support Systems Combined with Demonstration:
  - National and Regional Professional Meetings
  - Workshops
  - Trained commercial detailmen and consultants
  - Regional Laboratory Staffs
  - Librarians and AV specialists
  - Media Center and Resource Center staffs
  - Curriculum planners, developers; resource teachers
  - Demonstration Schools

These methods of transmitting information vary along certain dimensions which determine how effective the information transfer will be.

A. Vertical and horizontal dissemination: Vertical flow of information is that which goes up and down levels of the school system (e.g., from SEA to teachers), or up and down the system of moving materials from producer to user (e.g., from a commercial producer of filmstrips to a school district curriculum development staff.) This transfer of information is between non-peers, or non-colleagues. As such it may be objective, extensive, carefully planned, etc., but it may be perceived as a message from outsiders, and is attended either less or differently than horizontal information transfer between peer-colleagues.

B. *Active and passive methods*: All information technologies which merely make descriptions of materials available on request, or require extensive user search effort are passive. They may be necessary as references of course, or as a basis for more active methods.

C. *Techniques which make materials salient*: The general bombardment of the educator with descriptions, ads, journal articles, and catalogs requires supplementary methods to make utilizeable materials stand out as salient, and distinguishable from the undifferentiated mass of the vast array. Approaches which combine seeing and handling materials with consultation that provides sound criteria for selection, for instance, tend to make materials salient, and thereby offer effective information transfer.

D. *Screening*: Some preselection of AV materials is critical if the user is not to be deluged with and discouraged by a flood of information. Not all screening, of course, suits the user's needs. It may be more geared to publicizing a new program, or moving a commercial producer's stocks. Even in such cases, however, *screening is so vital to the user that information technologies which provide it tend to be effective.* An ideal information technology would be active and would screen materials according to known user needs while it made appropriate materials salient and allowed for horizontal dissemination as well. No one information technology, of course, can be this rich.

An investigation of dissemination systems now in use makes it clear that in general, those methods which combine demonstration with personal contact and consultation offer the most effective information transfer; indeed, it appears that there is no effective intellectual dissemination without resource personnel available at key stages to explain to, consult with, and help motivate the user in remembering materials. Industry's success with the detailman and with special workshops offer a prime example of such successful information transfer.

Information Technology by Types

The various information technologies, related user needs, objectives to fill those needs, and implications for the Office of Education are highlighted in the chart at the end of the chapter. It is organized according to the main subheadings of this section.

A. Documentation

1. Print *listings* of information about curriculum materials (that is, cataloguing and indexing) is the oldest organized form of intellectual dissemination, and has long been established as *the* basic reference method of intellectual dissemination for all curriculum materials, print and non-print.

An information technology industry has grown in recent years which in addition to other activities helps to fill the need for basic references with *directories*. (Directories for the purpose of this discussion are comprehensive listings of materials compiled from many sources, as opposed to catalogs which restrict their listings to one source, or one kind of source.) The proliferation of commercial and government catalogs means that overall summary sources are required to prevent users from having to search through an unmanageable number of catalogs, often missing many. The Xerox Corporation (operating NICEM), Listfax, the Educational Media Index, the Westinghouse Learning Corporation's large directory (now in preparation) and EPIS (Educator's Prime Information Service) are all examples of efforts to catalog as wide a range as possible of non-print (and sometimes also print) curriculum materials. Most rely on computers to store information under a variety of indexing patterns, and produce computer printout lists of materials available. At the present time, the printouts are either bound in book form (e.g., NICEM), or a service is offered the user whereby he can discuss what he wants with an information agent from the company and receive a shorter printout (e.g., Listfax). One, the Educational Media Index provides a cross-index of numerous commercial catalogs. One notable problem is that access planners[1] on both SEA and LEA levels are becoming only gradually and sporadically aware of such services.

Both catalogs and directories need further development to adapt them better to the cognitive styles and curriculum needs of educators. An analysis of 56 AV catalogs chosen at random during this project revealed that cross-indexing is frequently omitted; that where it does exist, it tends to be minimal. The problem is not simply one of inadequate cross-indexing: to date few cataloguing operations have started by finding out from the relevant educational users (teachers, students, curriculum developers and planners, in-service trainers) what their information requirements actually are. *Librarians and information specialists develop cataloguing and indexing methods (both print and non-print) without consulting or understanding the patron*. The result is poor dissemination. School system personnel contacted during this project expressed over and over again their needs for better developed catalog formats than the usual categorization by curriculum subject. Requests recurred for:

access by developmental level, grade level, and/or learner age
access by social needs: special materials for the culturally disadvantaged
special materials for the rural vs. urban disadvantaged

access by separate sections for materials designed to be used
as single items, in modules, or as
part of integrated programs, with
removable components of the last two
clearly indicated.

Some broadscale, conceptual and empirical research is clearly needed to develop models for cataloguing appropriate to educator's information requirements.

Catalogs of OE funded AV materials do not exist at the present time with the single exception of the NAC listings of a group of OE films. If OE-funded non-print materials are to be developed, produced and placed in classroom and teacher training programs, some OE reference source will be essential. A carefully developed OE catalog based on empirical studies of the educational searcher's needs could set a national standard for user-sensitive, problem-solving catalog techniques. Its development might be a project of the recommended NCEM. or of a National Institute of Educational Research. Such OE leadership is all the more urgent since one national leader in the field, the Library of Congress, is presently contemplating adding AV materials to its shelves and computerized information storage system, but without providing any catalog at all. (Retrieval will be possible through special search requests.) Such an OE catalog could be disseminated through more than one transmittor: by the NAC; direct from the OE to states and school systems; through the proposed Educational Service Centers. If it is to accomplish more than adding to the often confusing proleferation of catalogs already on the educator's shelf, however, special dissemination techniques will be needed. Effective means of ensuring that the information in an OE catalog does engage the attention of users might be dissemination through the system of ESC's, backed up by samples of OE materials made available at those centers for demonstration or by educational service personnel consultation.

In-house catalogs can be as simple as AV stock lists, or as complex as cross-indexed printed catalogs. The most common form, of course, is the familiar school library card catalog. Whatever their form, their goal is to make the choice among purchased materials easier for curriculum planners, teachers, and students. Many schools and school districts are now beginning to combine AV and book card catalogs so that the emphasis is less on media and more on content. In line with this effort, some librarians and AV specialists, rather than restricting their roles to keepers of depositories and of card catalogs, are becoming active as resource personnel in advising teaching and curriculum planners about material selection for specific teaching goals. This development is valuable. It and other flexible approaches by access planners need further encouragement. Training programs for librarians and AV specialists would be an effective way to help expand the functions that these critical personnel can fill in actively assisting the user to search and choose AV materials appropriate to his work.

2. The most diverse kinds of print documentation come under the heading of special emphasis techniques. They include the relatively passive professional journal article, and aggressively active special announcements of new materials. Many of them focus on a single item or program, and the hope is always that they will make the materials described highly salient. Yet unless special emphasis materials tap sharp current interest, they will be so many papers dropped into the wind, to be lost in the swirl of such papers descending on the educator. Exceptions - like the successful NAC flyer announcing a moon landing film within a few weeks of the Apollo XI flight - do attract attention because the receivors are already eager for such material. They must be used sparingly and with discrimination in order to have an impact.

The USOE is in a good position to use special emphasis methods since some school system personnel, particularly administrators and skilled professionals, are often highly interested in OE activities and information. This federal leverage could be used with excellent effect, for instance, to disseminate information about a few carefully evaluated OE-funded AV materials programs. The key words are "few" and "evaluated". Perhaps three to four such programs a year might be disseminated through the recommended state ESC's. They would require careful development, including manuals appropriate for general teacher use. (Their development might be a function of the proposed NCEM. Depending on copyright arrangements production might either be left to the states, or the NCEM might negotiate commercial franchises to handle production.)

B. Demonstration Alone

There are, however, techniques of demonstration alone which improve on sheer catalog searches as effective ways to obtain information about non-print curriculum components. These include previewing materials ordered from producers and non-print in-house techniques: previews of (all or parts of) films and filmstrips stored at school system depositories; card catalog slides or filmclips which illustrate kits, films., etc. Such methods require relatively small investments and planning. The browsing they permit can be a valuable, if undramatic, channel of informing educators about what is available at their school, district or state libraries and resource centers.

C. Personal Contact Methods Alone

Informal discussions between teachers and curriculum developers generate enthusiasm, make the materials discussed salient, and often provide informal training in how to use them in the classroom - in short, they can offer the motivating advantages horizontal dissemination provides for some users. The drawbacks are perhaps obvious: lack of time for extensive discussions during the school day, and lack of extensive knowledge about materials available on the part of colleagues. Many professionals at all levels of the 50 SEA and LEA's visited during this research project expressed great enthusiasm for seminars. Although there is considerable dissatisfaction with the lack of time during the work week for informal discussions between colleagues, seminars circumvent the time problem because they are organized for and anticipated within the working system. They offer the same motivating advantages as informal discussions do, and in addition center on particular themes, thus providing focussed and effective information transfer.

In general, however, it can be said that even these types of horizontal dissemination are more appropriately considered an outgrowth of and feedback to ongoing dissemination systems than primary methods of information transfer. Their contribution to viable dissemination can be important, but it is superceded by the power of combined demonstration and horizontal dissemination methods which also involve consultation with resource personnel.

D. Personal Contact Support Systems Combined with Demonstration

Because the technologies discussed above do not always by themselves provide users with sufficient information about AV materials, another group of techniques has grown up, involving consultants who can both discuss and demonstrate materials for the user. Perhaps the two most widely applied are the detailman bearing his catalog and samples, and instructional media centers.

Industry's detailmen have been eminently successful information agents. It is notable that although a few educators contacted during this project indicated a preference for dealers (because no one company's product is emphasized), most would rather discuss AV products with an informed salesman. Dealers do not usually provide the knowledgeable discussions; the enthusiasm, or the extensive demonstration of samples, a salesman can. It should be stressed that the detailman's success as an information agent does not rest only on his enthusiasm for his product and his income. The method itself is active since the salesman takes it upon himself to seek out school purchasing agents, teachers and AV specialists; demonstration and discussion make the particular AV products he offers salient; the materials themselves have been screened. (At a minimum preselection occurs because any one company offers a limited range of products. However, some companies screen far more usefully by providing consultants - usually former teachers - in addition to their sales staff. These consultants investigate LEA or SEA needs in depth and respond with a group of AV products to help fill these needs.) Whether offered by consultant or salesman, the combination of confidence, information and demonstration lend themselves to improved decision-making.

Media centers have sprung up across the country on both LEA and SEA levels. They vary a great deal in size, in the range of materials they stock, and in how much consultation is offered to teachers and curriculum planners. All, however, have the enormous information advantage of providing samples for the user to see and handle in a context that can foster discussion between colleagues. Some are housed in trailers which travel from school to school - a particularly vigorous and effective device. In many IMC's, the staff will acquire materials in response to expressed teacher needs (such as special materials for the culturally disadvantaged), although this development is not as widespread as it might be. These advantages are combined with an absorbable amount of materials presented to the user for his choice. Almost without exception, school system personnel contacted during the research expressed an interest in such "supermarkets" where they did not exist, and satisfaction with the method where they do.

There are a number of other information technologies which combine consultation with demonstration. They include such divergent techniques as national and regional professional meetings (i.e., those where displays are discussed, either in scheduled sessions or informally), workshops, demonstration schools, and the work of resource teachers. They are presented in the chapter chart.

Information Minisystems

Information minisystems have been formed both within school systems and by AV producers in which an interlinked set of information transfer techniques are combined to provide more effective intellectual dissemination to the user. The industry method and media centers described above comprise two such minisystems. All agencies - industry, government, LEA, SEA, etc. - who are most successful at furnishing classroom and other school system users with AV information base their efforts on most or all of the following:

1. An orderly set of references made easily available
2. Advance screening of materials by information agents to suit user requests and needs
3. Demonstration of media with consultation about its uses and potential
4. Formal or informal training in integrating media with curricula
5. Formal or informal provision for discussion between users

Producer Minisystems

1) All government agencies have the National Audiovisual Center available as an information transmittor and distribution clearinghouse. However, many have also long made further efforts on their own. Among these, two, the AEC and NASA, have set up systems which include regional libraries of materials and education agents in the field who are actively engaged in disseminating information about agency materials to schools. Both also make serious screening efforts in order to provide materials that will be suitable not only

in terms of the agency's public understanding policy, but also for the developmental level of students.

2) Some foundations interested in education have made active efforts at disseminating programs developed under their funding, programs which include AV materials. They not only maintain education agents on their staffs, but some foundations, for example, run teacher training operations in order to introduce their materials into schools. One even requires that at least two teachers from neighboring schools be trained so that they can support each other in introducing new AV curriculum materials to their school system. This foundation is assuring a nucleus for horizontal dissemination as well as moral support for the innovators.

3) Non-profits: A number make strong efforts to place their materials in schools. The most successful ones maintain regional depositories and active information agents in the field.

Within School Systems

Curriculum planning committees and resource teachers often form the link between teachers and school district, intrastate cooperative or SEA media and resource centers. Patterns are not consistent, and in any one LEA teachers may contact school system resources (and producers) directly for materials and at the same time have the help of curriculum committees, resource teachers, media center personnel, resource personnel and librarians available. In some locales, in fact, the overlapping of facilities produces not clarity of information but waste and confusion. In many others there may be a paucity of facilities and of teacher involvement in selecting materials. Those school districts which have been most successful at setting up their own systems for intellectual dissemination, however, do follow a common pattern:

a. They make heavy use of demonstration combined with consultation by media specialists and curriculum planners

b. Teachers are actively involved with, and committed to all phases of physical and intellectual dissemination from planning training workshops to choice and purchase of materials. This does not mean that producer's information agents and school access planner have a lesser role - on the contrary, their roles are critical and their efforts are joined actively with those of the ultimate user.

E. Trends

Five important trends appear at the present time which can be expected to cause widespread changes in intellectual dissemination over the next decade. Only two are themselves information technologies, and these are based on engineering advances:

1. Computerized directories
2. Dial access systems

The other three are educational trends intimately tied to information transfer which will alter both its direction and character if they continue to grow:

3. Multi-media emphasis in the classroom
4. The teacher as an increasingly active curriculum planning agent
5. Student-initiated use of AV materials

New Technologies

1. Computerized directories were discussed earlier in the chapter under Documentation. At the present time, although storage of information is computerized, user access is not. Some librarians, AV specialists, and information industries, however, are looking forward to a time when users can tap a directory data bank from terminals located around the country in order to extract only the type of information they want. This might be done via terminals in SEA or LEA facilities, or by regional commercial terminals. The complex programming, and copyright problems involved as well as the expense of the hardware make this trend the most remote of the five. When and if such computerized search and retrieval methods are set up. however, user-sensitive cataloguing will be crucial if they are to justify their investment.

2. Dial access systems are already in use in a number of educational (especially higher educational) institutions. The greater proportion include only audio links, although a few much more expensive systems provide TV access as well. Dial access with TV is a flexible and rich process which could tie all schools within or even across districts into central film, filmstrip and slide depositories. The method would provide not only preview, but also delivery of these materials. Demonstrations of other AV products, such as kits and training films about the use and handling of media could also be provided to users throughout LEA's and SEA's. Considerable pilot work in such techniques is needed to investigate potentials, problems and costs before widespread investment is justified. Wide dissemination of the outcomes of such pilot projects and especially of the particular conditions under which they succeed or fail will be important to educators. This is an area where the USOE might play a valuable catalytic role by keeping track of such projects and serving as an information clearinghouse concerning their results.

3. The multi-media emphasis in curriculum planning is beginning to gain strong momentum. AV materials are relied on less and less for mere "enrichment" - i.e., isolated illustrative use - among those educators who are interested in media. Instead, a range of media are deliberately sought which can help solve specific teaching

and learning problems. This approach requires active, effective and varied information support systems to provide educators with a wide selection of materials. It also requires training to help them suit materials to the day-to-day work of the classroom.

4. Active teacher roles in AV curriculum planning: It is beginning to become clear that the best laid plans for providing AV materials to schools often fail without active teacher interest and participation in planning. A number of school districts have begun to involve teachers in taking responsibility for AV planning and training. One outstanding district will not take any step in broadening AV use without teacher commitment and activity. This development demands rich, locally available information resources including appropriate catalogs, consultation, demonstration and training. As it spreads, well organized media centers, in-service training programs and knowledgeable consultation will have to spread also.

5. The student user of AV materials is rarely encountered today, but the practice has begun in a few schools. If dial access spreads, student familiarity with and access to AV materials (off-line as well as on) is also likely to spread, if only by student demand. This development may be relatively slow, but it points to the need for providing eventual AV browsing facilities for students, and access methods suited to their developmental level.

Footnotes

1. Access planners: librarians and AV specialists at LEA and SEA libraries, media centers, and resource centers.

Intellectual Dissemination

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
PRINT DOCUMENTATION					
Directories, producer catalogs, in-house catalogs	Ease of choice by planning, teaching users	Active help to users in winnowing mass of information to find what is useful	Spread information re directories available	Provide lists of directories via OE outlets	Regional Offices, NAC, ESC's
Necessary reference base for dissemination. Passive technique	Formats adapted to searchers' styles Access to OE-funded materials.		Empirical research re: user cognitive style and needs	Set catalog research model, standards	NCEM, ESC's
			Include OE materials in directories; catalog	Develop OE or Government wide catalogs	NCEM, ESC's
Special emphasis techniques	Limit USOE use	Apply only sparingly - use to disseminate carefully evaluated and high interest materials		Develop packages of AV materials and manuals for a few well developed OE-funded programs	NCEM as source ESC's, need assessment/information unit, states as transmittors.

Intellectual Dissemination (2)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
DEMONSTRATION ALONE					
Previews, displays, illustrations by slides, etc.	AV illustration of AV richness	Widely available samples and displays of AV materials	School system depositories, viewing equipment	Encourage via OE funding	Loans to libraries, contact libraries
Supplements reliance on catalogs alone. Spotty use at present	AV browsing in libraries, resource centers.		Card catalog filmclips, illustrative slides	Provide as adjunct to OE catalog for inclusion in card catalogs	NCEM
PERSONAL CONTACT					
Seminars, informal discussions between colleagues are major methods which provide professional support and encouragment. Limited in extent of users reached and AV disseminated	Motivation to use AV Chance for users to become self teachers	More opportunities for user discussions and more user activity in AV information transfer	Seminars Special demonstrations and workshops using teachers as staff	OE seminar encouragement OE displays at professional meetings	Seminar funding OE-industry displays OE displays

Intellectual Dissemination (3)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
DEMONSTRATIONS AND PERSONAL CONTACT SUPPORT SYSTEMS					
National and Regional Professional Meetings, Workshops, Demonstration Schools, IMC's, Educational Agent Systems	More familiarity with AV and its uses in classroom	Intense exposure to specific AV and to ongoing classroom use	Displays at meetings Smallscale meetings at local, regional, state centers Workshops and demonstrations of students and teachers using AV either live or on film	Provide OE displays Encourage smallscale meetings Encourage workshop function of ESC's	OE-industry, OE displays (NCEM) ESC's Training programs OE demonstration films of OE-funded products, projects
TRENDS					
New technologies: computerized access to directories, dial access systems	Quick access for school system users to wide range of materials	Pilot projects-re: AV information retrieval to determine costs, conditions of success or failure	Funding Consultation Dissemination of results	Smallscale OE investment but OE clearinghouse role in keeping track of developments and disseminating information about them.	Consultants Task Force Special Need Assessment/Information System efforts

Intellectual Dissemination (4)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
TRENDS (con't.)					
Multi-media emphasis and active teacher role in AV, curriculum planning	Content rather than strictly media approach	Integrated curriculum and access planning	Training for curriculum developers, planners, and for teachers	Flexible approach to training programs in AV focussing on broad educational goals Encourage training at ESC's	Training programs ESC's
Student-initiated use of AV	Easy access to AV for students	Browsing function Access suited to developmental level	Techniques to promote student selection	Encourage student-oriented media center activities, catalogs	ESC's, Contract Libraries, Loans to Libraries NCEM catalog work

The Dissemination System From the User's Point of View

An overview of the systems whereby AV materials are disseminated from producers to users was presented at the beginning of this report. Critical elements in these systems have been described in detail in earlier sections where the relevant organizations, technology and issues are discussed. This chapter is devoted to a summary of the dissemination process from the point of view of AV users in school systems. Highlights are noted in the chapter chart.

Who the Users Are

On both LEA and SEA levels, there are a number of different kinds of AV users. They range from classroom teachers to district in-service training staffs to state librarians. The extent of their interest in and work with media varies widely, although current overall use is low. Their educational missions may overlap, and the resources available to them in working with media follow no uniform pattern across - or even within - school systems. All, however, share the ultimate goal of improving the instruction of the student. This is so whether their use of media focusses on the classroom, on training teachers, on storage and retrieval of materials, on curriculum development and implementation, or on setting state curriculum requirements.

All are also potential users of AV materials developed with USOE support. The dissemination systems whereby they gain knowledge about, access to and experience with non-print materials form the framework within which USOE can make the results of its own funded research on such materials more widely available, and facilitate as well the more effective dissemination of non-print educational materials in general.

Users can be divided broadly into six types:

Learning users:	Students - whether they select their own or not.
Teaching users:	Classroom teachers
Training users:	All those in the school system who carry out in-service training functions. Depending on the school or school system, they may or may not use AV materials for general training purposes, and may or may not train the teacher to use media in the classroom.

Curriculum Planning Users:	All those in the school system who plan and/or develop curricula. Again, depending on the school system, the level of use may vary from nonexistent to extensive.
Access Planning and Implementation Users:	Those in the school system who plan the access others have to non-print materials. (E.g., librarians and media center staffs. Budget personnel are not included in this discussion.) They are essential transmittors of information and materials who can fill either active or relatively passive roles. This depends largely on whether they consider themselves mainly keepers of depositories, or problem-solving resource personnel to learners, teachers, trainers, planners and AV developers.
AV Materials Development Users:	Those in the school system who create new AV materials or adapt materials from outside sources (e.g. industry, government) to suit local educational needs.

The following chart lists these users according to type, title and level in the school system.

A special word should be said about the category of training users. The chart does not show that access planners provide any training function. Yet these are the critical local personnel who have the knowledge and materials available to help train teachers and curriculum staff in the practical details of acquiring and handling media. Ideally they would also help integrate AV materials with the curriculum. In some school systems, media staffs have indeed begun to be active in both types of work. The potential of access planners as a training resource is an important one which will be discussed further in this chapter.

Motivation

Teaching, Training, Learning and Curriculum Planning Users, AV Materials Developers

The first critical area in the process of implementing educational uses of non-print materials involves motivation, a factor which has ramifications for users at all levels of the educational system.

Current School System Users of AV Materials

Type of User	School	School District	State
Learning	Student Teachers (professional training materials)		
Teaching	Teachers		
Training	Resource Teachers	City and County Teacher Training Staffs	Dept. of Education Teacher Training Staffs
Curriculum Planning	Teachers Curriculum Planning Committees	City and County Curriculum Planning Staffs City and County Curriculum Development Staffs	Dept. of Education Curriculum Guidelines Staffs Dept. of Education Educational Requirements Staffs
Access Planning and Implementation	Librarians AV Coordinators	City/County Librarians City/County Media Center Staffs City/County Resource Center Staffs Intrastate Cooperatives Media Center Staffs Intrastate Cooperatives Resource Center Staffs	Dept. of Education Librarians Dept. of Education Media Center Staffs Dept. of Education Resource Center Staffs Interstate Compact Media Center Staffs
AV Materials Development	Teachers AV Specialists	City and County AV-Curriculum Specialists	Dept. of Education AV-Curriculum Specialists

Basic Interest in AV: Without the foundation of a basic user interest in media and some grasp of its instructional potential, there is little motivation for educators to work with AV materials.

It appears clear from the information obtained during this project that interest tends to be fragmentary at best without support from any given user's peers and superiors. On the LEA level, few teachers will take an interest in AV if their fellow teachers and the principal do not, no matter how well stocked an available media center may be. Some school staffs have used media in spite of a principal's lackluster attitude, but it is the rare teacher who continues to do so when both colleagues and principal pay little attention to it. Interest at the school district level can help instill local school interest where it does not exist, but only if school district staff initiate active programs and are skillful in dealing with both principals and teachers.

The same applies on the district-to-state level with the essential difference that greater gaps often exist between state departments of education and their school districts, than between districts and individual schools. Superintendents of schools, and district curriculum planners and developers in many places are sometimes more likely to respond to each other and to outside sources (such as commercial detailmen) than to take leadership from the state - again, unless SEA's are unusually active and skillful in triggering the interest of both administrators and staff in non-print materials.

Federal planners of any interventions to improve the dissemination of OE or other non-print materials to the classroom will, therefore, need to remain sensitive to the psychology and sociology of LEA and SEA personnel. Interventions can be implemented only in cooperation with both leaders and users at state and local levels.

Interest can be aroused through professional organizations and publications as well as within school systems. Effective means include professional meetings and journals. This is true in a general way for all the interventions suggested: interest can be engendered by displays at conventions (cf. live classroom demonstrations at local and national meetings), and articles in relevant professional journals (teacher and librarian publications, for instance). It is particularly relevant to the work of an NCEM and to OE-industry special displays which should actively disseminate information about their efforts and about OE-funded AV materials to educators at all levels through such professional channels.

Public Information materials can be important in triggering the educator's interest in AV use in two ways:

a. When the audience for P.I. materials is the general public, there is a feedback effect from community to school through student interest, PTA requests. sensitizing school boards to the value of AV contributions to education, etc.

b. When the audience for particular P.I. materials comprises educators, the effects are direct.

Public Information effects can be particularly powerful on either type of audience when AV methods themselves are used: e.g. special films about innovative AV teaching techniques. The recommended NCEM could be an agent for creating such materials and disseminating them through various channels - the central OE office, ESC's, state education agencies and the NAC - to both public and educational agencies.

Readiness of AV Service Agencies to Help the User: In order to sustain motivation, school system service agencies (libraries, IMC's, resource centers) would ideally take an active role in helping ultimate users with their work with AV materials. Teachers and others need to feel both competent in working with media, and assured of accessible sources of further help when new problems arise. For this they need:

Samples and explanations of AV materials

Development of selection skills

Help in integrating media and curriculum

Active response to expressed needs, such as for further help in locating materials.

Many users will also require training in handling equipment and the physical aspects of non-print materials. Teachers and others who develop their own AV materials may need technical help. Disseminators within the school system can be most effective, therefore, if they focus on user needs, and maintain a flexible responsiveness about changing displays, accessing methods and training techniques. These training techniques, whether for showing the user how to handle equipment, helping him develop selection skills, or teaching him to make transparencies are extremely important to sustaining motivation.

Through the suggested system of ESC's, the USOE can help set standards for such flexible and sensitive assistance. This will call for media centers which:

a. In the tradition of school libraries help the student learn to use the facility and choose materials he needs for independent study or other projects.

b. Offer the teacher, resource teacher and curriculum planner help in integrating media and curriculum. Such work may best be done in active cooperation with libraries in order to combine print and non-print curriculum aids in focussing on ultimate learning goals.

c. Help students, teachers and other staff master the physical handling of materials and equipment.

d. Aid interested staff in creating new, or adapting existing AV materials.

e. Go to the user when necessary in order to provide real accessibility. Successful experiments with media trailers have already been made in a number of school systems throughout the country. These may be as necessary in congested urban areas (where parking is such a problem that school staff and students cannot readily travel during the day within the city) as in isolated rural ones.

Another alternative in reinforcing service agency readiness to help the user with AV materials can be implemented through contract libraries and OE loans to existing libraries. Local situations will determine needs, and OE flexibility in dealing with local situations will be important if the proliferation of overlapping agencies is not to dissipate energies and confuse users to a point where the "readiness to help" function is lost. For example, where no media centers exist, libraries may expand their functions to include non-book materials. Where depositories for books are needed, these might be set up in consultation or in physical conjunction with media centers. Where media centers and libraries are separated, both could maintain book-media card catalogs.

To encourage cooperation between librarians, AV coordinators and media center staffs in order to assure service agency readiness to assist users, the USOE can provide a model by engaging all three together in the planning of the proposed ESC's. Furthermore, the recommended NCEM would most appropriately be staffed by library as well as AV personnel, by curriculum-oriented as well as access planning staff.

Further training for access planners is a clear requirement of the expanded resource personnel functions described above. The training situation in the country today for such new AV and librarian roles is unsatisfactory. A state-federal training program to both supplement and provide a model for the more traditional pre-service training schools may be critical in implementing the readiness of service agencies to help the user.

Continuing study can help keep track of changing user needs in relation to both ESC services, and resource personnel problems.

Access Planning Users

If media and book centers are to remain viable parts of the dissemination system for AV materials, the professional motivation needs of their own staffs must be taken into account. Librarians, AV specialists and media staff need both professional contact among themselves, and some sense of being in communication with their counterparts through the state and federal educational organizations. Professional contact with colleagues is often taken care of by membership in professional associations and professional journals and meetings. The more serious gap at the present time is lack of contact with counterparts through the educational hierarchy - a lack which gave rise to frequent complaints by access planners visited during the project. Many expressed frustration at being out of touch, in fact at not knowing how to get in touch with counterparts in state departments of education and in the USOE.

To help fill this lack, the USOE can take an active part in maintaining contact with SEA and LEA access staffs. One alternative to do so is by having OE central staff comprise part of the proposed federal-state system of Consultants. Another would be by staffing special Task Forces relating to access planning with federal, state and local access planners. OE-funded materials can become much better known to local and state librarians and media specialists, and therefore to ultimate users, if such communication routes are kept open.

Obtaining Information About AV Materials

All users require information about an appropriate range of materials for their purposes so that they may make informed choices and decisions. The references needed to make this possible (directories, inhouse catalogs, etc.) will vary according to the user.

Access planners: Media specialists and librarians require well planned AV directories and catalogs from which to suggest materials for purchase, and in which to search for new materials as their clients - the ultimate users - express new needs. They also need an opportunity to preview samples of materials. They require training in how to understand and respond to the needs of the educator rather than impose an arbitrary retrieval system as so many libraries do. As new technology appears, this is a key group to assure that it is employed in the service of current and future user needs.

Teachers, trainers, curriculum planners and AV developers on SEA and LEA levels will also often require direct access to outside catalogs. In addition, they need inhouse catalogs which list what is available in their school, district and state facilities, and which are based on a content rather than a media-centered approach. They need opportunities to see and handle samples of AV materials, and furthermore to consult with access planners about both using and adapting media to curricula.

Learning users require student-oriented catalogs, and demonstrations appropriate to their learning needs and developmental level.

Possible USOE interventions:

The USOE's interest in making OE-funded AV materials useful to school system users lends support to the catalog and indexing recommendations discussed in the chapter on intellectual dissemination. It is worth emphasizing again that research is needed to determine user search techniques, cognitive styles and indexing preferences. An OE catalog based on such research would not only provide an effective OE reference source, but would help set a standard for similar cataloging approaches by information scientists and AV producers.

Since users also need opportunities to see and handle samples if dissemination is to be maximally effective, demonstration samples of OE-funded materials could be provided along with an OE catalog. These might range from filmclips sent out with it to a package of sample materials quickly made available on request.

Finally, as discussed earlier, in order to obtain optimal information about materials, school system personnel would ideally have consultation available with access planners in libraries and media centers. The dissemination channel they can provide for the demonstration of OE-funded materials can be a most important component of a system to disseminate AV materials developed through OE-funded research projects.

Acquiring Materials

When SEA or LEA personnel plan to use AV materials whether for training or for teaching purposes, they must not only know what materials are available and how to integrate them with curricula, they must also have their orders filled with some reasonable speed. This is essentially a matter of setting up efficient delivery systems.

Distribution methods may seem simple to establish in comparison with other elements of dissemination systems, but in practice there are difficulties which can sabotage the widespread use of AV materials. Whatever agencies may produce OE-supported AV materials (industry, the recommended NCEM through an in-house production facility, etc.), they will need to assure mechanisms for efficient delivery.

A number of alternative distribution methods have been found successful from mobile units with a demonstration van to a central display, demonstration and purchasing center. Some administrators have suggested urban centers located every few blocks to serve school and community. The critical requirement is that there be access, that it be planned to respond rapidly and economically, and that it be a part of a comprehensive dissemination plan that receives continuing financial and administrative support.

To keep track of distribution problems which may arise, the USOE can make use of Task Forces and/or the proposed Consultant systems. Special task forces on distribution can spot major difficulties and propose solutions. Through the monitoring function of the Consultants, continuous feedback of information about how OE materials distribution is functioning can be provided to the recommended Need Assessment and Information Unit. Either or both can help assure that continuing good distribution service is provided to ultimate users in a manner that focusses on variations in user needs from school system to school system.

Utilization

Perhaps the most serious difficulty the teacher and curriculum planner encounter when they attempt to use non-print materials is that until they gain a good deal of experience with a wide variety of them, they have neither clear criteria for evaluating media nor comfortable implementation skills (handling equipment and integrating materials with the curriculum). The need for resource personnel to help with the latter has been emphasized throughout this and other chapters, as has the need for pre-service and in-service training programs in AV use. Such assistance directed toward the teacher's mastery of decision-making and use of the materials is a critical aspect of the dissemination process.

Evaluation guidelines are, of course, closely related to implementation skills, but they deserve a separate discussion of their own.

Evaluation

Two aspects of quality must be assessed if AV materials are to be well evaluated:

a. technical qualities
b. educational qualities

The technical quality of materials includes not only physical characteristics such as color of a film or TV resolution, but also stylistic ones. (A now notorious difficulty with early ITV, for example, was that standing a teacher fore-square in front of the cameras to deliver a lecture resulted in a poor visual presentation.)

Educators are not usually trained in audiovisual style requirements (in contrast to the training they receive throughout their own schooling in writing style requirements). The further sophistication of assessing styles appropriate for students of various grades, ages and backgrounds cannot be expected of them when both training and guidelines are lacking. Yet presentation of poorly designed AV materials has been a large factor in discouraging many teachers from continuing with them. When his students lose interest, when they do not appear to be learning if only because of boredom, why should the teacher continue using the materials? Media specialists in many school districts and state agencies do, in fact, make it their business to help acquire technically good materials. They themselves, however, are not always sufficiently trained for such work. Both access planners and other users would welcome further help in the form of some explicit guidelines, both for themselves and for presentation to teachers.

The educational quality of AV materials is a more complex matter which requires relating the content format of the materials to given educational objectives. Granted that the materials available are well designed, how does the teacher or curriculum planner go about deciding what materials suit their students and which fit into the teaching techniques being employed? They must contend not only with course content and grade level appropriateness - two factors which good catalogs can give information on but also with such related matters as the needs some students have for more concrete and others for more abstract presentations. Educators are concerned with having students learn in many ways: to understand and recall facts and concepts, to apply new skills to problem solving, to learn how to learn on their own. The teacher may be using a wide variety of teaching methods such as discussions, illustrations, exercises and group projects. He may, on the contrary, be working with highly specific and detailed behavioral objectives. He is offered not only a welter of AV materials, but also AV materials in different kinds of packages. Films, kits, slides, realia, ITV, all can be available as single discrete items, in modules, or as part of tightly integrated learning programs. To sort out the student needs, teaching options and educational goals involved, and evaluate non-print materials in the light of these factors, he needs explicit guidelines. The growing demand for educational audit is likely to make the teacher, and curriculum planners at all levels more and more conscious of this need.

Evaluation guidelines could be developed under USOE sponsorship through various channels: by establishment of a select task force of relevant experts, by the recommended National Center for Educational Media, or by special projects. In addition to assisting teachers and other users, such guidelines might also provide a basis on which OE and potential adapters and developers can select among the AV materials devised in OE-supported research projects, and choose those which are good candidates for further development and production. Lastly, such evaluation guidelines should assist AV developers to produce high quality materials.

The Dissemination System From the User's Point of View

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
MOTIVATION Teachers, Trainers, Learners, Curriculum Planners, AV Materials Developers	Interest in AV	Administrative and peer support	Establish AV agencies through and with administrators, users	In improving AV dissemination, work with SEA and LEA leaders, users	All interventions
			Encourage AV interest through professional education organizations	Active OE dissemination of OE materials through professional education organizations	NCEM work, OE displays to be disseminated via meetings journal articles
			Encourage AV interest through public information programs	OE public information programs for educators and for general public	Special public information programs as NCEM work, Need Assessment/Information Unit Work.
	Readiness of AV service agencies to help ultimate users	Provide information re materials; demonstration; training in selection, use, development and integration with curriculum	Educational resource specialists in information, instruction, professional training and technical aspects of AV	At OE-supported centers require such specialists. Cooperate with such staff in planning media centers, libraries	ESC's Loans to libraries Contract libraries

The Dissemination System From the User's Point of View (2)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
MOTIVATION (con't.) Access Planners	Professional Support	Contact with counterparts through educational system	Responsive OE state and school district media and library personnel.	Active OE efforts to maintain contacts with SEA, LEA media and library personnel	Consultant system to include OE library, media staff. Task Forces comprising OE, state and local access planners.
		Contact with colleagues	Professional Associations	OE staff participation in professional association activities.	OE policy re: staff activity.
OBTAINING INFORMATION All school system users	Useful range of choice of AV materials	Documentation	User-sensitive catalogs	Set model of catalog research	NCEM-Information Science Unit
		Opportunity to handle samples	Demonstration	Provide sample of OE AV materials for demonstration	ESC's to carry OE materials samples.
Teachers, Trainers, Learners, Curriculum Planners, AV Developers	Help in obtaining information re: AV materials	Consultation with educational resource specialists for information	Media centers staffed with AV information specialists	Help provide centers so staffed where they are lacking	ESC's

The Dissemination System From the User's Point of View (3)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
ACQUIRING MATERIALS Access Planners	Obtaining AV materials when and as needed.	Speedy acquisition of materials by media and resource centers	Efficient delivery systems, producer-to-school system	Attention to distribution provided by producers of OE AV materials	Consultants Task Forces re: distribution
Teachers, Trainers, Curriculum Planners, AV Developers	As Above	Quick availability of materials for teachers, trainers	Efficient within-school system delivery	Distribute OE materials via media centers	ESC's
All school system users	As Above	As Above	As Above	Monitor efficiency of OE materials distribution to and within school systems via Consultants system for feedback to OE	Consultants
				Via special projects as required as problems arise	Task Forces
UTILIZATION Teachers, Trainers, Curriculum Planners, AV Materials Developers	Decision-making skills	Criteria for evaluating AV quality: technical educational	Evaluation guidelines	Help develop evaluation guidelines to serve both users and developers	NCEM evaluation project Task Forces to determine needs Special OE projects to develop guidelines

The Dissemination System From the User's Point of View (4)

CURRENT CONDITIONS	NEEDS	FUNCTIONS REQUIRED	OBJECTIVES	IMPLICATIONS FOR THE USOE	ALTERNATIVE INTERVENTIONS
UTILIZATION (con't.)	Implementation skills	Handling equipment Integrating AV with curricula	Training in AV, both pre-service and in-service	Mechanisms to help provide in-service training	Training programs for ultimate users
	On-the-job help with utilization skills	Locally available educational resource staff for training ultimate users	Access planners to provide this service	Help implement training access planners	Training programs for access planners

Utilization

In the ideal dissemination system, the classroom teacher is regarded as the final gatekeeper and expert through whom materials must pass to be presented to the student. But the ultimate focus, toward which all other activities of the dissemination system are directed is the teacher-student interaction. The ideal dissemination system has as its primary overall objective that of serving this teacher-student unit. The teacher is the midwife who guides that process which ultimately "gives" birth to learning. The designer of the ideal system, along with the implementer, managers, and operators of the system, must recognize that the teacher, in his classroom experience has acquired considerable knowledge as to what his students need, or will tolerate.

These ground level requirements of teachers for both materials and system characteristics are in essence, directives for policy making. That is not to say that the teacher can necessarily verbalize these requirements or communicate them directly, or that the teacher is the original source of all of the concepts and ideas. Nor can the teacher be solely responsible for decisions regarding the nature of materials or systems. It must however by accepted that in our current system the teacher is the point in the system which grants approval or disapproval of materials and services by his willingness to use or not to use either, or his verbally or non-verbally expressed attitudes toward them.

Many school systems have already arrived at this level of sophistication. This is evident in those systems striving to place the decision making process as close to the teacher as possible. Ideally, the dissemination system is so devised as to allow decisions to take place at the most micro level, the classroom. It may be as simple as providing necessary technology which ennables the teacher to stop a film and rerun that portion needed to serve a specific behavioral objective. These school systems, often through hard experience, have learned that the teacher, often intuitively, senses what types of materials will mediate the learning process. Often the teacher reaches a level of operations in which he is able to consciously abstract principles about materials indicating why or why not an item does succeed. At the very least, the teacher is acutely aware when an item is a total, or near-total failure. Teachers vary in their ability to communicate their experiences and ideas to others in the dissemination system.

With this perspective on the teacher's role as a basis, the dissemination system is in a position to do two things to enable the teacher to draw on his fund of knowledge about materials and students and become an active contributor to the dissemination system.

1. Establish and maintain professional integrity: The entire dissemination system should be designed and implemented in a way

which, not only in fact, serves the teachers' needs, but communicates to the teacher that the system has been established for the purpose of serving and facilitating the learning process, in a manner that respects his professional competence and has need of it.

Communications of this nature are implicit in involving the teacher in the selection of media for curriculum guides or inviting him to assist in planning for ETV programs. The communication that his opinion is valued occurs when materials in the R&D stages are field tested in the classroom. The communication to the teacher in this situation is that the teacher is a competent, capable agent whose opinion and views are crucial to an optimally functioning system. The opposite message is communicated by the AV specialist who "from Olympus" selects all the films for a film center.

2. The dissemination system can actively provide the teacher with those skills necessary for him to achieve mastery of the situation. The teacher has knowledge which both he and the system need to bring the products of the dissemination system into operation and determine its level of effectiveness. But the teacher frequently cannot activate this knowledge because he does not have the decision-making, utilization and evaluation skills necessary to act.

These skills are vital and can be offered as outlined below:

A. Decision-Making Factors and Skills:

Skills or Behavior Required	Intervention
-Problem solving approach to the instructional process to enable the teacher to conceptualize needs and seek strategies to meet them.	1. Model of the Dissemination system: (actively engages in problem solving) 2. Pre- and in-service training to teach teacher to set behavioral objectives.
-Attitude of support systems: leaders and administrators must be supportive and demonstrate approval of use of materials to motivate the teacher to decide to use materials.	3. Public Information material which states requirements to administrators and key AV leaders. 4. Involvement of administrators and leaders in teacher training so that through their awareness of what constitutes success they can communicate approval to the teacher when success occurs.

Skills or Behavior Required	Intervention
-Awareness of contact with, and ability to use all pertinent access resources: physical, information.	5. Public Information to communicate to teacher the objectives and overall system of the dissemination system. General information as to what sources of help are available through state and local ESC's. 6. Public Information materials from state and local ESC's explaining local sources of help available. 7. Pre- and in-service training in how to use those systems which are available.
-Ability to determine appropriateness or relevance of materials based on: academic objectives psychological-sociological needs of students technical appropriateness teacher appropriateness: personal needs of teacher	8. In-service training to establish awareness of the many factors to be considered in making a decision. 9. In-service training to gain skill to converge all factors involved to make final selection of an item.
-Confidence in choice of materials	10. Feedback from administrators, supervisors, AV leaders.

B. Utilization Factors and Skills

Skills or Factors Required	Intervention
-Adequate support services rapid physical access maintenance of materials and information services	11. Training and consultation for those personnel who must operate the system, plan for those operations.
-Ability to handle resources mechanically accessing information, accessing materials.	12. In-service training, how to use the consultants at the local ESC, the catalog services. 13. Handbook on decision-making and evaluation.

Skills Required	Intervention
-Ability to apply materials to learning task: technical operation of equipment in the classroom, intergration of content with curriculum.	14. Hands-on training in use of equipment
	15. Handbook on decision making and evaluation
-Comfort and confidence in operating the equipment and teaching through the materials.	16. In-service training in how to match materials characteristics to desired behavioral objective.

C. Evaluation of Experience:

Skills Required	Intervention
-Ability to determine if materials achieved goals: assessment of aesthetic-emotional responses, behavioral objective, teacher's contribution to success or failure.	17. In-service training: learns to assess student's behavioral and academic response.
	18. Micro-teaching.
	19. Workshops, meetings, conventions with peers and supervisors to communicate and assess experience.

As the teacher acquires the skills necessary to successfully accomplish each of the three steps outlined above, psychological mastery is experienced. Through mastery the teacher acquires new confidence, increased motivation and becomes an involved participant in, and supporter of the system. This role is far preferable in that the teacher becomes an active agent in teaching with the media. The alternative role is that of a passive and sometimes resentful recipient of prescribed methods.

Conclusion

Recognition of the knowledge, understanding and insight the classroom teacher can exercise regarding the learning process is long overdue. Those systems which have achieved some success have in the process sought the teacher's opinions and built on them.

The teacher may need to learn communication skills and other skills which enable him to act on his knowledge. However, that knowledge is available and the dissemination system which wishes to succeed should develop those skills necessary to draw upon that knowledge. Building the teacher's confidence and being sensitive to the need to establish and maintain the teacher's professional integrity is the starting point. We are faced with the choice of whether to offer the teacher the role of physician or the pharmacist's delivery boy.

Training

Adequate training of teachers in the selection and use of non-print materials is an essential requirement of any effective dissemination of such materials. In a system of single classrooms guided by individual instructors, what each teacher says or does is what reaches the students. Until teachers and supervisors are convinced of the value of these materials and have integrated them into the curriculum, until they are comfortable in selecting appropriate materials from a reasonable number of possibilities, until they are at home with the mechanics of the equipment and the educational qualities and potential of the materials, their students will have little or no real schoolroom access to the media.

A school's acquisition of materials and equipment - even in large quantities - is no guaranty that they will be used. Stories of dusty projectors and tape recorders stowed away in back closets are commonplace. In his survey of Oregon public schools, Norman Jensen makes the point that the "prevalent thinking of educational administrators appears to be that if we merely provided more audiovisual equipment for classroom utilization, instruction will be improved. There is little evidence to substantiate this belief. Evidence indicates that AV equipment is available, but not being used."[1]

Training makes the critical difference between use or neglect of these materials. The teacher who has received a systematic introduction to non-book materials as a student teacher and/or has had adequate in-service instruction in this field is the one most likely to work effectively with media in the classroom. Eleanor Godfrey's study of audiovisual technology, 1961-1966, notes that "in all areas except science, teachers who had received some specialized training were more likely to use audiovisual materials than their untrained colleagues."[2] In addition, the study makes clear that "lack of enough teachers trained to use the techniques effectively was a frequent justification for non-use of 4 out of 5 media."[3]

The pre-service and in-service training in the use of media now available to most student and classroom teachers across the country is seen as inadequate by many experts.

The Commissioner of Education for an Eastern state had this view of the situation: "Teacher training institutions are still orienting teachers to books rather than non-book materials. They're not oriented, except in a Mickey Mouse course, on audiovisual aids. There's not one teacher coming out of a state college here who knows five methods of teaching reading using other kinds of resources. Cuisenaire Rods, nobody ever heard of, except some bright teacher who heard about them from other sources. The people in the colleges who are training the kids have never experienced these things. IPI is something they never heard of at the state teachers colleges. We've got to start there in making knowledgeable the trainers of teachers so they can incorporate some of this within the curriculum itself."

From the West coast, Norman Jensen has reported: "As teachers have a more adequate supply of audiovisual equipment and materials, it becomes apparent a more substantial in-service training program is needed to assure maximum use of facilities and equipment...Generally teachers have had little or no training in the classroom use of audiovisual materials. It is important they obtain such instruction otherwise the multiplicity of audiovisual materials available could not make their full contribution to the educational program."[4]

From other vantage points come similar observations..."There is an outpouring of new teachers from colleges and universities who have no training in audiovisual methods". ... "The universities are out of touch in their pre-service training of teachers. They lack understanding of the new curriculum, IPI, and technology and are limited by their own biases."..."Universities are out of the ball game, out of tune with what teachers need to know to teach today. There should be a reverse information flow. We bring college students into the Resource Center and they see things they've never seen before."

Definitions

The content of pre-service and in-service training varies with the individual or institution making the definition and ranges from a nuts and bolts approach - how to thread a projector, operate a tape recorder, prepare a transparency - to such new educational frontiers as teachers serving as diagnosticians, assessing a student's needs, and making unique instructional prescriptions from a battery of available materials.

Training may be a one-shot workshop before school opens or on a Saturday in the middle of the year. It may be a continuing series of lessons, lectures, demonstrations. It may or may not invite the active participation of student or teacher.

An investigation of four different methods of training graduate and undergraduate education majors along with in-service teachers in media utilization took place at Auburn University's School of Education over a period of two years.[5] Indicative of approaches in numerous pre-service and in-service training situations, the methods and results were classified as follows:

1. The mechanical approach - simply teaching equipment operation and use. Outcome - "showing teachers how to properly use machines did not insure, or even particularly maximize, their use in the classroom."[6]

2. The philosophical approach - intensive lectures and discussions, "a typical education course." Outcome - "extremely unsuccessful."[7]

3. The simulated experience approach - students planned and coordinated learning experiences in a simulated classroom situation. Outcome - students better motivated and stimulated.

4. The authentic experience approach - a real teaching situation with public school students. Teachers diagnosed children's needs and provided "a learning situation, using media, within the framework of those needs."[8] Outcome - students overwhelmingly in favor of this experience, staff recommends for further study.

Schools of Education - Pre-Service Training

Pre-service training is generally taken to mean the instruction of a student in a School of Education before he or she is certified or hired as a teacher. In some instances, the training of a student during a period of practice teaching is referred to as in-service training, but for purposes of clarity, this report uses in-service training only in reference to the instruction of professional teachers.

Only the exceptional School of Education requires a media course of its students though it may offer one or two electives in this area. Universities offering graduate degrees in instructional technology list the widest spread of courses. The director of one undergraduate Department of Secondary Education felt that it made little difference whether his students were instructed in media or not, saying that if they were any good at all they would be back for a Master's degree and, if they were interested, could pick up such courses at that time.

Example as a Teaching Method

In addition to specialized media courses, instruction in such subjects as reading, math and science may include use of audio and video tape, development of instructional materials or demonstration of instructional aids. Methods courses may also provide students with some acquaintance with media. One professor noted that he used a considerable amount of equipment in his Methods course without special reference and felt the chance was good that his students might follow his example.

Pre-Service Programs

Occasionally a School of Education will lay out a pre-service program for its students which includes "knowledge of the values of good educational communications; competency in the selection, utilization, and evaluation of instructional media; experiences in the production of simple-to-make audiovisual materials; and skill in the operation of audiovisual devices."[9] Much more likely such pre-service media training as a student receives is a hit or miss matter depending largely on the school system where he or she is assigned to practice teach. If the supervising teacher happens to be an AV enthusiast, the school turns out to be well-stocked with AV materials and the curriculum has been planned to include non-book experiences, the student's exposure will be full and he will probably come away wanting to do as his mentors have done. On the contrary, if materials are scarce and the supervising teacher disinclined to improvise, the student will learn next to nothing about media and may never have the incentive to make up the difference in his teaching career.

The administrators of a number of Schools of Education have ascribed the lack of required courses on media to the fact that there is no such requirement for state certification as a teacher. These same officials ranged from very cool to very warm in their own outlooks on the need for such courses. The director of a Department of Secondary Education gave his full support to students spending as much time as possible on the subject matter of their selected fields, but spoke of the "gimmicky" nature of some materials and the "bandwagon psychology" of those who looked on AV materials as the answer to all problems. On the other hand, the director of Elementary Education at the same school was troubled that there was not a required course in media for his students. He felt strongly that if teachers did not learn to use materials, the play would be taken away from them by big business which has already demonstrated that it can produce results by bringing in its own trained professionals and equipment.

Recommendations - Pre-Service Training

There is a clear need for improvement in both the quality and quantity of pre-service training in the selection and use of non-book media. Schools of Education which lack these programs entirely need both motivation and assistance in establishing such instruction. Other teacher training institutions, with media courses underway, may well need help in strengthening this department in terms of staff, curriculum development and/or equipment.

In working out standards for pre-service training programs, it is important to remember that the effective use of media involves far more than plugging in a projector or setting up a film strip. Attention must be paid to the evolving role of the teacher as a manager of the learning process rather than as the classroom disseminator of information. There must be new emphasis on skills of coordinating, directing, counseling and motivating students. Teachers will need to become experts at diagnosing a pupil's needs and prescribing what is best for him out of many alternatives.

Courses in classroom management and media management should be requisites for earning a degree in education. The theoretical and practical aspects of media acquisition, selection, evaluation, dissemination, maintenance and obsolescence should be integrated into the undergraduate curriculum. Practice teaching should afford the student the opportunity to test out what he has learned in this area under careful supervision. The granting of Federal money to a teacher training institution for any purpose connected with media-materials, IMC's, etc. - might carry the requirement that its pre-service training program in media meets given Federal or other prescribed standards.

To insure that new teachers are entering schools well equipped to handle the educational potential of new technology, the Office of Education might make several contributions to the present system beyond those suggested above. Additional support could be extended to the development of new methods for training propective teachers in the use of the media in education as well as in training of qualified specialists who will become the trainers of new teachers. A variety of financial and other incentives can be employed to stimulate and publicize such creative programs. Working with DAVI and other concerned private organizations along with State Departments of Education and other federal agencies, the Office of Education should examine the question of teacher certification state by state with a view to encouraging media training as a requirement for professional license.

School Systems - In-Service Training

Opportunities for in-service training in the understanding, selection and use of non-book media are no more consistently available in school systems than pre-service training in Schools of Education. The odds are high that the teacher untrained in this area will remain untrained. As one observer records the scene: "The new teacher comes into the (school) system with enthusiasm but with little knowledge of how equipment and materials should be used. Too often she fails to receive the information on the job. The building coordinator may be no more knowledgeable than the teacher about the methods for incorporating materials into the instruction plan. In-service instruction is nonexistent or ineptly presented...little encouragement is offered by the older members of the instructional staff."[10]

In most cases, in-service training does not make up for the deficits of poor pre-service media preparation. Taking stock of new teachers, the principal of an inner city school has seen no perceptible change in their use and understanding of AV materials. He felt they tended to fall into the pattern of teachers already in school. However, he was only able to offer in-service training opportunities irregularly at staff meetings when new materials were introduced or when a new teacher was not secure in using a piece of equipment.

The Director of Instruction of a suburban school system viewed staff development as a "big problem" in which it's "pretty hard to move into CAI or Dial Access if teachers don't know how to or won't use the library as it now stands, hard to use TV when a person can't thread a 16 mm. projector."

Range of In-Service Programs

In-service training comes in a variety of sizes, shapes and styles. A spot-check of a dozen school systems around the country found no two programs alike whether the setting was urban or rural and the enrollment large or small.

In one medium-sized city, AV instruction was the on-going responsibility of the principals who assisted teachers in this area when teachers made their needs known. In addition, subject matter coordinators brought in multi-media appraoches to in-service workshops in reading, math and science.

One suburban school system provides several in-service workshops for its secondary school teachers, emphasizing 16 mm. films, overhead projectors and the production of transparencies while it reaches its elementary teachers during five staff development conferences scheduled throughout the year. A system in a neighboring county provides half-hour mini courses at its Education Center four mornings a week where teachers, on their own time, can become acquainted with cassette recorders, transparency production, projector threading. Teachers are also offered a professional development course in media which earns them in-system credit toward promotion. These classes meet once a week for two hours for eight weeks. The audiovisual director estimates that these procedures reach about 60% of the county's teachers over a five year period. In an adjoining county, a third and larger school system has been divided into four geographic divisions with two media specialists assigned to each. The specialists travel to the schools and set up workshops on non-print materials. They reach all the schools in the system in the course of a year.

Another school system, which employs 6,000 teachers, offers a summer course on the preparation of materials and the use of equipment. Approximately 75 teachers attend the sessions and a nearby college is considering giving three credits for the course. The audiovisual department also offers "quickie" workshops for two day periods at schools. Substitutes are provided for attending teachers. According to the assistant director of the program, these short courses work out very well with 10 to 20 times more teachers wanting to attend than there is room for. As to the success of the total program, he adds, "Twenty-five to 75 a crack is hardly a dent in 6,000 teachers."

In one southern school system comprised of 103 schools, teachers meet twice a month at their own school site to pinpoint and work together on problems. Out of this number, 15 to 20 school faculties have chosen audiovisual techniques as a focus and are looking at principles of learning in relation to the use of AV materials as well as at available AV resources. These meetings take place after school on the teacher's own time and the Director of Curriculum speaks warmly of the "family spirit" that pervades the faculty with teachers willingly giving extra time and effort.

Time for Training

On the other hand, according to the principal of one mid-western school, in-service training in the use of AV materials would be a "bomb" unless it was done on instructional time. Teachers wouldn't be interested after 4:00 p.m. In a neighboring jurisdiction, the Director of Curriculum Services noted that with growing teacher militancy, it was virtually impossible to gather teachers together before or after the working day without pay. He added that in-service training is "one of our most pressing problems, and we have not met it at all."

Time is not the only question. The Superintendent of one large school system suggested that tacked on in-service programs are really poor substitutes for providing sufficient time off from work. "And it is not only a matter of time," he said. "We have found that when we gave people time, they didn't know what to do with it, and we were not capable of helping them. Really, we think we know what education is.

about when we don't."

Content

What is taught at in-service sessions tends to reflect a particular school or school system's notion of the role of non-print materials in education. Within the sample contacted, there is a heavier emphasis on mastering the machinery, turning out the transparency and ordering the appropriate film than on the nature of communication, learning theory, message design and behavioral objectives. Only a small proportion of the schools interviewed made a practice of integrating media instruction with subject matter areas such as math, English, science and social studies as opposed to emphasis on materials and equipment per se.

Effective Strategies for In-Service Training

A number of school systems have evolved or are in the process of working out relatively effective strategies for training teachers in the use of media.

For example, in one system, the phrase "staff development" has been substituted for "teacher training" since teachers objected that "training was for dogs, not people", and an effort has been made to isolate the elements which held teachers back initially in their use of media. Analysis yielded the conclusion that *classroom management systems* were the uppermost problems blocking these teachers' use of technology. In their present classroom set-ups, they lacked systems for coping with 30 children doing 30 different things simultaneously. Therefore, adding a multiplicity of learning materials had been viewed, from the teacher's standpoint, as a potential threat, an addition of new problems to old. This led to the recognition that, to be effective, an in-service program introducing media also requires improving management techniques and changing attitudes. A second premise was established to the effect that, to hold their interest and achieve their understanding, teachers should be involved at every stage in the development of a new program.

In another school district, the guiding philosophy is that teachers *learn best on the job* despite any pre-service education they have had. Here the goal is to *develop resource people* - through graduate courses in media at first-class universities - who will then be *easily accessible* to teachers and in a position to develop the competencies of hundreds of their colleagues.

In one school setting, audiovisual workshops stressed the learner. Hardware was highlighted only as equipment that carried information. Teachers were given opportunities to use the equipment. As a result, teachers are not afraid to use non-print media and their attitudes toward materials are much more favorable than they were several years ago.

In a school system with a reputation for excellence in its media program, the audiovisual director uses "helping teachers" to take materials directly to the teacher in the classroom. This special teacher then works with children on the spot, giving the classroom teacher a chance to appraise the value of materials as teaching tools. Without this sort of door-to-door service, it is reasoned that teachers do not have the opportunity to learn new techniques. They may be innundated with brochures and catalogues dealing with media, but they never have a chance to read them in the face of daily classroom pressures.

A mid-western city school system has used Title I ESEA funds for a mobile unit staffed by media professionals that travels from school to school to demonstrate materials in a laboratory setting. The program can call on up to four substitutes so teachers are free to work with the self-instructional materials aboard the van or with the larger equipment which is set up by the instructor in the school. Within the academic year, in theory, by reaching every school, the van contacts 100% of the teachers. In addition, in-service courses are offered with two professional growth credits for 36 hours during the summer or academic year. An AV laboratory for the production of materials is operated and workshops for groups of teachers according to subject areas are held on Saturdays. The media director sees his major problem as lack of staff so that teachers are not reached as frequently or as much in depth as he would prefer.

In-Service Training Programs - Needs

Asked what single change he would make to improve teachers' effectiveness in the classroom, one school principal said unhesitatingly he would provide good AV training. At present there was no time for such instruction and no one to do it, except occasionally at staff meetings.

Even in situations where there are fairly solid media programs, there are apt to be strong feelings that improvements are needed. In a system that offered its teachers 10 in-service programs in afternoon sessions and held Saturday workshops, the audiovisual director said emphatically, "We are not even scratching the surface. We need much more. Our primary handicap is lack of personnel." He would like to see the Federal money that has gone into equipment released for personnel. "Hardware and software are great", he said. "But if there is no money to train the teachers to use them, then they're useless."

In the view of a group of State Department of Education audiovisual officers, there is a need for more validated programs in bringing about changes in teacher attitudes and behavior. Their key is field tested and validated teacher training materials. There is a similar need for material field tested to meet specific objectives. The total package would be validated materials and validated teacher training programs.

There is also a continuing need for retraining because of the rate of change in technology. It has been estimated that those who are trained now will have to be retrained in five years. The rapid turnover of teachers in many school systems is another factor which makes continual training a necessity.

In-Service Training - Recommendations

As in the case of pre-service training, in-service training of teachers in the choice and use of media stands in need of improvement both qualitatively and quantitatively. It is only through the medium of in-service training that the overwhelming majority of teachers who received no media instruction as undergraduates - whether this was two years ago or twenty - can be reached. Furthermore, even those teachers with adequate pre-service training in this area will need the continuing opportunity to be brought up-to-date as new equipment and materials are produced and new methods of presentation are developed.

There is an overriding need to train trainers, to educate those specialists who, in turn, can teach elementary and secondary school teachers how to handle media effectively in their classrooms. To encourage more students to specialize in educational technology, there must be more graduate courses available at more universities. Provision for scholarships in this field would also be of assistance. Once graduated, the specialists should be able to find jobs in an increasing number of school systems.

The options available to the Office of Education include the assistance of programs (a) to develop graduate courses in media study, (b) to establish scholarship funds for graduate students of media, and (c) to set up media departments in school systems.

Among the most pressing problems in the in-service area is what State Department of Education audiovisual experts referred to as the need for validated materials and validated teacher training programs. The specifics of what is to be taught and how should undergo close examination both in developmental and field testing stages. Tested and approved programs should be widely disseminated to school systems through such a network as the proposed Regional, State and Local Educational Service Centers.

Teachers who have introduced media into their classrooms have found that along with the use of new materials comes a need for new techniques in managing a classroom. This appears particularly true in cases involving individualized instruction. Along with developing standards and criteria for training in classroom management systems, the Office of Education might develop model training programs with a view to widespread dissemination of any fruitful results.

Even well staffed and well stocked Media Centers may be underused by a school system's teachers. Bringing the Center to the door of individual schools either by a mobile component such as a van or bus or in terms of a media instructor who serves as a "helping" teacher in the manner of an art or music resource teacher by taking over the class for a lesson have been means of making a direct impact with media in several school systems. The Office of Education might offer funding assistance to such programs. Mobile units could also be designed as segments of Federally sponsored Educational Service Centers.

The timing of in-service training sessions is frequently mentioned as an important factor in the success or failure of a program. In the majority of the school systems contacted, most teachers were unwilling to undertake training on their own time. In several systems, training time was made available through the hiring of substitutes. One plan, advanced by a Foundation, not only advocated hiring substitutes but recommended sending teachers to demonstration schools in other parts of the country for several weeks of training, observation and practice teaching. Careful evaluation of the results of such training programs should be undertaken. Such strategies may be beneficial or may lead to such complications as increased mobility of good teachers from poor districts to better or more affluent ones.

Reward Systems

Working with local universities, some school systems have arranged for academic credit for some in-service media classes. In other instances, school districts have awarded in-system growth credits. The opportunity for professional growth is an important motivating factor for teacher attendance at such classes. Other methods for increasing incentive should be explored. These include incentive pay for increased teaching effectiveness. Current interest in Educational Audit may provide workable methods for assessing such effectiveness consistent with union agreements and educational needs.

Criteria for Training

Cooperation between the Office of Education, State Departments of Education, universities, Schools of Education, relevant professional associations, and local districts will be required to develop criteria for pre-service and in-service training programs. Standards should be set for the length of various instructional periods, instructional methods, content to be covered and level of competency attained. Improved and implemented criteria for training in the use of non-print materials should result in more effective classroom use of media. The application of uniform standards would mean that teachers transferring from one school system to another would meet with fewer difficulties.

A task force designed to achieve the cooperation and consensus described above can be organized either within the USOE or by contract with a Research and Development unit that comprehends the USOE objectives and position. Such a task force should recommend criteria for training at the various levels and methods for implementing those training programs.

Teacher Education and Industry

Training teachers and other school personnel to use the equipment it is selling them is a fairly common practice for industry, though the degree of involvement varies from company to company.

One large concern maintains a staff of eight professional consultants in such areas as foreign languages, humanities, math and reading to work with its clients. The head of this department felt the company had to take on the training job because "universities are not doing the job and teachers want to use materials effectively." Paraphrasing from a recent study in a large Eastern state, he added the conclusion that teachers will sabotage any program where they are not comfortable and will support any where they are comfortable - making training an imperative.

Another company, where training experience dates back to 1922, is providing teachers colleges with programmed systems so students can teach themselves to use various kinds of equipment. It also takes part in training workshops for clients and other interested groups. This manufacturer stresses that the critical aspects of training go far beyond learning to push the red button and emphasizes that the teacher needs to know how a device can make her teaching more effective, what's in it for her and for the learner, how it can become a tool of her craft, and how she can integrate new material into her program in a meaningful way.

Another large manufacturer does not employ a special training staff, but draws on specialists from its operating groups depending on the instructional program designed for a particular client. "We have to work with the educational people and help them to help themselves," one specialist reported. "We are talking about complex programs that would otherwise be superimposed rather than worked into the curriculum. Without instruction, it would be an abortion."

A fourth corporation describes teacher training as "built in to the philosophy of the sale." It conducts workshops with teachers both before and after sales and follows up with newsletters devoted to creative uses of its materials. A spokesman for the company expressed the hope that the materials would serve as a stimulus to teachers to develop their own.

A company that sells its products through dealers maintains a staff of three trainers who travel around the country attending meetings of teachers and administrators that have been set up by a local dealer. The sessions range from an hour after school in the back of a coffee shop to entire days with teachers released from the classroom. This company also pays dealers a "demonstration allowance" on equipment with which customers have become thoroughly familiar before purchase.

Through these contacts with the educational world, one of the difficulties that has become apparent is the problem of reaching the unresponsive customer or the one who is apprehensive about the use of AV materials. A company spokesman expressed some concern that "we may be reaching the same teachers over and over again." He felt that when it was possible to work with new teachers, it generally turned out that they were willing to use materials and to integrate them into the curriculum. He thought that a change in the methods of the trainers of teachers was the greatest need.

Examining the question of what large role industry can play in the education of teachers, David Bickimer of General Learning Corporation has pointed up several possibilities: "...there is a willingness in the teacher education profession to invite big business into the arena. There is an atmosphere conducive to the asking of some rather difficult questions. The questions deal with the goals appropriate to business in contributing to teacher education. Three possible goals are (1) tangible products which can be of assistance, (2) whole systems which can be adopted, and (3) the relatively intangible goal of a sophisticated dissemination process."[11]

Bickimer goes on to emphasize the value of dissemination which he views as "the final phase of the innovative or research and development process whereby schoolmen such as teacher educators are helped to:

a. decide on the benefits of an innovation.
b. decide whether or not appropriate resources are at hand for the adoption of the innovation.
c. place the innovation in action.
d. evaluate the outcome of the innovation."[12]

Whether industry can play such a role in teacher education may be determined by mutual acceptance among industrialists and educators, with the outcome hinging on the quality of communication between the two groups. Bickimer proposes internships whereby businessmen experience the educational world first-hand while educators take part in the business world until they are thoroughly familiar with its methods and procedures.

Recommendations - Industry

Major companies involved in the production and sales of audiovisual equipment and materials have found it necessary to teach teachers how to make use of these innovative products. Without such education, non-print materials in the classroom are, at best, ineffective and, at worst, useless; in either case, hardly a recommendation for further sales.

The Office of Education should take a long, hard look at industrial training techniques. If the methods employed in these programs can pay off in terms of sales and profits, there is every chance that similar strategies can be used effectively in pre-service and in-service training.

As one alternative that is increasingly heard, the Office of Education could contract with appropriate private companies to develop pre-service and in-service training programs with such objectives as ability to manage a classroom working on individualized mixed media programs, to evaluate materials, to select materials, to handle materials mechanically, etc. Contract payments might be in terms of "guaranteed performance" or "accountability" with the industrial contractor being paid only when agreed educational goals were met. Such opportunity could be open to non-profit organizationa as well, however, the element of risk capital may pose a problem.

Teacher Education and Government

The Federal government is involved in training teachers in the use of non-print materials both directly, using government personnel as instructors, and indirectly, by funding training programs.

NASA, for example, provides consultative services, which include a selection of audiovisual materials, films, filmstrips and slides, poster exhibits, workshops and spacemobile lecture demonstrations, to groups of teachers requesting assistance. Its Educational Programs Division assists State Departments of Education, school districts, professional associations and institutions of higher education in arranging pre-service and in-service workshops for elementary and secondary school teachers on developments in space sciences. The instruction entails both the presentation of information and audiovisual techniques.

At each of eight NASA Field Centers there is also an Educational Program Officer working under the local Office of Public Affairs who is in touch with the educational community in that region. His work includes acquainting schools and school personnel with available NASA materials. Most Educational Program Officers are former teachers. They participate in local educational and audiovisual conferences, develop science workshops, serve on educational committees and assess educational needs. Participating in the training of teachers to use its materials is apparently one of the significant elements in NASA's dissemination program.

The Bureau of Education for the Handicapped develops materials to train teachers in the use of media to communicate with the deaf. It conducts both pre-service and in-service training sessions in the development and utilization of materials. At Schools of Education and universities, pre-service training involves students in evaluation of materials during their practice teaching, in development of materials and in working with the SEIMC's during part of their practicum. In-service training sessions are focussed on systematic decision-making, determining use of materials based on an assessment of a child's needs, establishment of individualized behavioral objectives, search for appropriate instructional materials and evaluation.

New guidelines drawn up by the Office of Education for institutions seeking to apply for Teacher Corps funds emphasize that the colleges and universities must plan to use successful elements of programs for the Corps in their other teacher education courses. The guidelines ask applicants to "specify the new approaches which will be undertaken in the Teacher Corps program and the timetable for general adoption should these approaches be favorably evaluated."[13]

Some of the "new approaches" mentioned are:

"Moving toward more flexible models of teacher education which provide for individually paced and more personalized learning for teachers in training.

Moving toward performance competency as criteria for university-approved programs of teacher certification.

Involving all colleges within the university in reshaping teacher preparation along interdisciplinary and academically sound lines."[14]

Regional Educational Laboratories

In carrying out their mission to spread the use of the results of educational research and development, "all laboratories are giving attention to teacher education either as a means of achieving goals or as an objective in its own right."[15]

In Philadelphia, for instance, Research for Better Schools considered training the crux of the lab's dissemination and the school's acceptance of IPI. In schools using IPI, the lab trained the principals first and they in turn trained their teachers. The lab also found that a single program was not enough to give teachers and aids enduring skill so it employed auto-instructional refresher courses throughout the year.

In the area of cooperation with teacher training institutions, the same lab had the following experience. It set up a seminar and invited 200 deans and other policy makers from 200 teacher-training institutions. Of the 200 invited, only 50 people attended and only one accepted the concept of trying IPI on the undergraduate level. This was a particularly discouraging note since the lab sees widespread acceptance of IPI as dependent upon its acceptance in schools of education. More intensive study of the experience may be indicated in order to determine the character of and perhaps the key to resistance.

Intensive teacher training was undertaken by the Education Development Center, Boston, Massachusetts, in connection with "Man: A Course of Study" a project consisting of 16 films, numerous booklets, pamphlets and teacher aids. Seven summer institutes were held, attended by groups of teachers from school systems. These teachers then remained active as a group in school systems using the course. It was anticipated that 200 trained teachers would be working with 2000 other teachers. Membership at the Institutes was obtained by holding 8 one afternoon seminars around the country. In effect, teachers wishing to attend the institute had to sell the course to their school systems and get a commitment that the system would at least experiment with the course.

The Far West Laboratory for Educational Research and Development with a long-range goal of working out the specifics of in-service and pre-service training has produced a "minicourse" whereby a teacher can compare the videotape of the lesson she has presented with filmed models, enabling her to receive rapid feedback on her skills in a non-threatening situation.

State Departments of Education

The number of states involved in the training of teachers in the use of media has more than doubled during the past decade. According to one study, "In 1947 only fifteen states or 31 percent were involved in in-service teacher training in educational media. In 1957 only seventeen states or 35 percent were so involved, but by 1967 thirty-eight or 76 percent of the states were conducting in-service education with three additional states contemplating such activity in the near future. When asked if such training carried university credit for the successful completion of the training period, three states replied that it did. In addition, three states also answered that such credit was applicable to credit for certification."[16]

Frequently a state's contribution to in-service training consists in stimulating local school districts to undertake such programs.

Intra-State Compacts

Using local, state and federal funds, PESO (Panhandle Educational Services Organization) has found teacher training a necessary supplement to its dual responsibilities for developing innovative programs for permanent adoption in the schools and media dissemination programs.

Recommendations - Government

Training teachers in the use of non-print materials - which includes a wide range of evaluative, decision-making and technical skills - is an essential ingredient of a successful dissemination program. Together with schools of education, local school systems and other private organizations, government agencies have an important role to play in making media effective classroom tools.

The Office of Education might work more closely with other Federal agencies to promote training programs in conjunction with the dissemination of materials. At the same time, some government agencies may have on-going training programs that could serve as models for other efforts if OE served as a disseminator of information regarding these approaches.

A system of Regional, State and Local Educational Service Centers could foster teacher training along lines similar to that provided by NASA's Educational Program Officers or industrial education consultants. In addition to being close enough to schools to take part in training directly, the Centers would also be in a position to foster other pre-service and in-service programs. As new training methods and materials were developed and validated by the several R & D operations of OE, they could be disseminated through the network of Centers.

To give clout to its concern for teacher education in this area, the Office of Education might set the standard that all programs involving media should include plans to carry out relevant teacher education. Such standards would be significant requirements for satisfaction of grants and contracts.

Through the Regional and State Education Service Centers, State Departments of Education should be able to count on detailed plans providing the best in teacher training efforts in order to encourage and give support to similar programs within the state. Through an improved information gathering and dissemination system, research carried on by private foundations and professional associations along this line should be included in the resources available to the Centers and other teacher training agencies.

Conclusion

Written for the Task Force of the NDEA Institute for Advanced Study in Teaching Disadvantaged Youth, teachers for the real world concludes with the following paragraph:

> It is unrealistic to assume that local and state institutions and agencies can or should bear the major brunt for long-range planning and development of training programs to meet national needs. Particularly at a time when comprehensive and systematic approaches to teacher training are so desperately needed, there is a strong case for the federal government to assume part of the burden of long-range planning in cooperation with state and local institutions. Given the objective of an open society, it is essential that national revenues be made available for the initiation and continued support of such national teacher projects as manpower recruitment, training programs and materials development. 17

This chapter's recommendations to the Office of Education, summarized by the chart that follows, are based on a similar realization of a need for a concentrated national effort in the area of teacher education in the use of media. The suggested efforts call for cooperation with industry and with other government agencies as well as actions by the Office of Education to improve pre-service and in-service instruction in as many dimensions as possible.

Training

CURRENT CONDITIONS	NEED	FUNCTIONS REQUIRED	OBJECTIVE	IMPLICATION FOR THE USOE	ALTERNATIVE INTERVENTIONS
Pre-Service Training 1. Many new teachers entering school systems without adequate preparation in the selection and use of media.	Teachers need to be trained on the undergraduate level, prior to employment, in selection and use of media.	Ability to select and use appropriate media for general classroom and individual instruction.	Establishment of media courses in Schools of Education which lack them. Strengthening existing media instruction staffs and facilities in those schools of Education with such departments. Infuse use of media with regular curriculum.	Assist in establishment of additional and improved media courses in Schools of Education. Work with Schools of Education to make media instruction a requirement for a degree. Work with State Departments of Education to make media instruction a requirement for teacher certification.	Regional, State and Local Educational Service Centers provide model training programs. Any funding for other media programs made conditional on establishment of training courses. Task force on standards and criteria to develop criteria for training program.
Pre-Service and In-Service Training 1. Insufficient number of media experts to train undergraduate or practicing teachers.	Sufficient number of media experts need to be trained to teach undergraduate or practicing teachers, and serve as resources to other teacher education staff.	Media experts skilled in teaching groups of teachers on the selection and use of media.	Schools of Education and school systems staffed by a sufficient nu number of media experts to instruct teachers.	OE should re-enforce this training through a) model training programs b) system of Federal scholarships c) funding of all media programs dependent on establishment of training programs in accord with Federal standards.	Regional, State and Local Educational Service Centers criteria for teacher training.

Training (2)

CURRENT CONDITIONS	NEED	FUNCTIONS REQUIRED	OBJECTIVE	IMPLICATION FOR THE USOE	ALTERNATIVE INTERVENTIONS
In-Service Training 1. Inability of teacher to manage classroom with students using individually prescribed materials.	Teachers trained to manage classrooms with students working with individually prescribed materials.	Same	Training in classroom management systems.	Develop standards and criteria for training in classroom management systems. Prepare model training programs.	
2. Local media centers often seem too far for busy teachers to attend for in-service training, media demonstration, etc.	Media centers need to be as close to teachers as possible for instruction and demonstration purposes.	Mobile media centers to bring training and materals to the doors of each school in a system. "Helping" teachers to bring media to classrooms.	Improved in-service training of teachers, better use of materials.	Support of local educational services centers comprised of mobile segments. Support of programs supplying "helping" media teachers to the classroom.	Local Educational Service Centers Support for flexible services designed to provide easy access to training materials and consultation.

Training (3)

CURRENT CONDITIONS	NEED	FUNCTIONS REQUIRED	OBJECTIVE	IMPLICATION FOR THE USOE	ALTERNATIVE INTERVENTIONS
3. In-service training before or after school hours not welcomed by many teachers, sessions often poorly attended.	In-service training programs scheduled on school time.	System of paid substitutes so teachers can receive training on school time or system of in-class cooperation with resource teacher.	To reach all teachers with media training.	Support of a substitute teacher program through State and Local Education Service Centers. System of resource teacher trained by Local Service Centers.	State and Local Educational Service Centers.
4. Continuing change in educational technology.	System for updating training.	Up-to-date training staff.	Teachers trained to select and use most effective media whether of recent or more dated origin.	Develop model training programs which include evaluative criteria.	Task Force on Standards and Criteria, State and Local Educational Service Centers. Distribution of criteria for evaluation training in decision-making.
5. Lack of validated materials and validated teacher training programs.	Materials that are effective in the classroom for designated objectives; training programs through which teachers learn to use media.	Field testing and evaluation of materials and programs.	Media that teach, teachers who can teach with media.	Testing out materials and programs in Educational Service Centers along with Regional Labs and R&D Centers.	Educational Service Centers. Development of criteria for materials and training programs.

Training (4)

CURRENT CONDITIONS	NEED	FUNCTIONS REQUIRED	OBJECTIVE	IMPLICATION FOR THE USOE	ALTERNATIVE INTERVENTIONS
Teachers frequently not motivated to attend in-service training sessions.	Additional motivation for teachers to take part in in-service training.	Award of academic or in-system credit for media training.	Teachers more highly motivated.	Assist school systems in setting up training programs that can be academically credited or credited in terms of professional growth within the systems.	Task Force on Standards and Criteria, State and Local Educational Service Centers. Incentive to local agencies for effective teacher motivation and participation.
Industry & Government Insufficient number of well structured, field tested in-and pre-service programs in use of media.	Additional programs that are effective in training teachers to select and use media.	Structuring and field-testing media training programs.	Teachers well versed in the uses of media.	Government-sponsored or in-house R&D.	National Center for Educational Media. Contracting with universities and private companies, etc. to design and set up programs, (with possible payment only when agreed educational goals are achieved).
Government Not enough information on training programs disseminated to decision-makers in school systems who will be instituting them.	Better dissemination of information on pre-service and in-service training programs.	Dissemination network.	Appropriate dissemination of training patterns. Best made available to meet specific needs with criteria for appropriate use.	Establish a network of educational services centers for collection and dissemination of this type of information along with other functions.	National, Regional, State and Local Educational Service Centers. Site for design of training programs.

Training

Footnotes

1. Norman R. Jensen, The Role of the Audiovisual Building Coordinator: Opinion Vs. Practice, Unpublished Dissertation submitted to Oregon State University, April 18, 1969, p.2.

2. Eleanor P. Godfrey, The State of Audiovisual Technology: 1961-1966, Department of Audiovisual Instruction, National Education Association of the United States, 1967, p. 57.

3. Ibid., p. 100

4. Norman Jensen, The Role of the Audiovisual Building Coordinator, p. 196.

5. Melvin E. Knight and Dennis L. Smith, "Teaching the Effective Use of Media", Educational Technology, Vol. IX, No. 1, January 1969, pp. 29-30.

6. Ibid., p. 29.

7. Ibid., p. 30.

8. Ibid., p. 30.

9. George E. Ingham, "Preservice Media Training," Audiovisual Instruction, Vol. 14, No. 1, January, 1969, p. 56.

10. Fred John Pula, "Teacher Education and Media: We're Winning the Battle", Audiovisual Instruction, Vol. 14, No. 1, January 1969, p. 73.

11. David A. Bickimer, Speech to CCET Convention, November 2, 1968, p. 9.

12. Ibid., p. 8.

13. Teacher Corps Guidelines for Submission of Proposals for 1970-72 Programs, Office of Education, Final Draft, October, 1969, p. 3.

14. Ibid., p. 8.

15. Francis S. Chase, The National Program of Educational Laboratories, U. S. Dept. of Health, Education and Welfare, Office of Education, Bureau of Research, p. 41.

16. Robert E. DeKieffer and Melissa H. DeKieffer, A Two Decade Study of Educational Media Activities in Teacher Education in the United States, 1947-1957-1967, p. 30.

17. B. Othanel Smith in collaboration with Saul B. Cohen and Arthur Pearl for the Task Force of the NDEA National Institute for Advanced Study in Teaching Disadvantaged Youth, teachers for the real world, The American Association of Colleges for Teacher Education, Washington, D. C., 1969, p. 173.

Universities and Media

Several universities known to be active in educational technology either through the vehicle of a resource center or an academic program in media were contacted. These universities were investigated to ascertain whether or not they could serve as switching points for USOE materials, and how such programs and centers affect the quality of training in their affiliated school of education.

A. Discussion

A description of a somewhat typical university involved in, but not highly sophisticated with media follows:

The state university under discussion is comprised of several schools and colleges including a school of education. Four years ago an autonomous teaching resource center was added. Administratively, this center is directly responsible to the President of the university, not any single academic department.

The teaching resource center grew out of campus wide audiovisual equipment and film distribution service originally attached to the library. When a building was designed to house a campus closed circuit TV system, the decision was made that all film and hardware be consolidated in the same building with the TV system. Thus, almost by a process of association, the Teaching Resource Center (TRC) was created - originally only as a physical structure to house equipment. Now that the Center exists, however, other services are being planned. The Teaching Resource Center has plans to create materials for all departments of the University - the College of Education being one of those.

Other services are in operation which permit interaction with students and personnel in the College of Education. In the coming fall (1970), a course in television production will be offered to university students under the auspices of the department of Continuing Education.

The Teaching Resource Center does a greater amount of video taping for the College of Education than for any other department. The center videotapes practice teaching for evaluative purposes. Arrangements have been made with a nearby high school to be wired into the campus closed circuit television system to facilitate this service. Portable VTR's are offered for use in other public schools throughout the city.

The TRC has an extensive 16 mm film library. Other departments in the university do purchase their own films, but are allowed to list them in the TRC catalog.

The TRC does maintain, store, supply and deliver all equipment for the University departments. (A second large state university staff member complained about a similar situation in his University. Stating that the system, even at the micro level, was too centralized - that both materials and equipment ought to be housed in each building to maximize use and motivation to use.)

Commercially prepared materials are not available through TRC, with the exception of film or film strips, because the TRC views itself as a production unit obviating the need for "outside" materials. Some commercial materials can be procured upon request but this is discouraged since staff time and energy is needed for TRC productions.

This TRC does not view itself as performing totally integrated tasks since respective academic departments wish to set their own behavioral objectives - while the TRC produces the correlative product. The staff of the TRC feels these two operations which result in a product should be integrated. Apparently no suitable arrangement has been devised to bridge this gap.

Currently the TRC has no information dissemination as such, due to budget and staff limits. Flyers do precede regularly scheduled film previews, and a film catalog is available.

The Director of the Center devotes a considerable amount of time contacting professors in other departments, demonstrating materials, films, etc. and describing services offered. He feels strongly that the way to sell professors on audiovisual materials is to have materials available to provide the professor with a "hands on" experience.

At the present time relations between the University and the SEA are strained at the very least. The SEA has developed a closed circuit TV network linking all schools in the State with studios in the State's capital. While the SEA has the transmission resource, the University has staff and resources to prepare and teach in-service training courses. There is no cooperation between the two installations, however, since political friction developed when both organizations wanted control of state-wide closed circuit TV network. While this specific incident may not be typical, cooperation between state and university educational institutions has been the exception rather than the rule. Although such a channel for the dissemination of educational materials may not have the highest priority, at some time in the future, consideration of whether and how to improve such relationships may be indicated. It is possible that the role of the universities can be considered as a part of plans for comprehensive state programs.

B. Policy Recommendations

1. Universities and State Education Agencies:

Relationships between SEA's and universities are either absent or are frequently characterized by political friction and professional rivalry, as a result of such problems as certification issues. Many SEA's and universities maintain merely token relationships. The universities feel duty-bound to communicate at least informally with the SEA since the state performs a regulatory function via the establishment of certification and licensing requirements.

Implication and Intervention

The USOE cannot reasonably expect to use the university as a formal switching point of materials to SEA's. However, the USOE may want to take into account the nature of the relationship when establishing local educational service centers and, in those cases where a university has useful resources, encourage SEA's to call upon them for their services. Perhaps cooperative arrangements with, and use of, existing university resources could be a requirement for funds to an SEA. These educational cooperative arrangements may cluster about goals which the state education agency and the university share, such as ITV, in-service training for school districts, teacher certification requirements, and/or information and distribution systems.

2. University Audiovisual Programs and Teacher Trainees:

There is wide variation among universities across the nation in the degree to which each is organized for, and has invested in facilities for non-print educational materials. Clearly recognized by individuals interested in the effective use of non-print materials is the fact that personnel who have been in residence at universities with well-developed active technology centers or programs have a tendency to utilize more non-print materials in their teaching and to utilize such materials more effectively. Further, those students in schools of education who complete their practicums in school systems with well-developed technology centers or systems are similarly more effective in their rate and use of materials.

Implications and Interventions

In recognition of the fact that technology-communication study programs and non-print dissemination systems in universities and schools of education have substantial impact on the rate and effectiveness of use of non-print materials among public school personnel, one USOE goal should be: to upgrade technology centers and media programs in universities and schools of education by a series of interventions:

a. Strategic placement of Regional, State and Local Educational Service Centers:
    1) Near universities to upgrade and reinforce present technology centers
        - by providing consultants to work with university personnel, teaching staff and/or technology center staff.
        - by serving as a model for the university technology center.
        - by offering in-service training to university staff.
    2) Near colleges and universities preparing teachers.
        - to provide cooperative projects and activities in media use and development for student teachers while in their practicum.
        - to provide practicum settings for library or information science students, e.g., students could spend part of

their practicum visiting and working in the Educational Service Center.

  - to upgrade media activities and programs in schools of education by supplying materials and information to college staff for their own use or for use by their students.

b. Establishment of a USOE Need Assessment and Information Office to:

  1) Reinforce state and university relationships through funding specifications which require that state education agencies and universities cooperate on joint projects. If a system of comprehensive state dissemination programs is established, university involvement in the programs should be a requirement.
  2) Provide top level conferences for exchange of information among personnel in schools of communication, educational technology, and library science.
  3) Establish task forces to explore the different kinds of university activities related to the dissemination of non-print materials; use this information to devleop models of technology centers or media programs.
  4) Initiate regional and state-wide seminars, workshops and conventions among technology-oriented personnel as well as personnel working directly with technology. These workshops, etc., would provide support and needed encouragement by offering such personnel the opportunity to exchange ideas, problems, and experiences.
  5) Develop
     a) handbook to provide criteria, instructions and ideas for use of media in college teaching;
     b) a directory for technologically oriented personnel describing courses, programs, equipment systems and combinations of systems in universities across the country.

C. Summary

Universities and Schools of Education hold great potential for upgrading the rate and effectiveness of the use of technology by public school teachers. College instructors can provide (1) models to teachers in training and (2) instruction in methods for the use of media in the teaching process. University technology centers play a dual role: (1) these centers supply and develop materials for college instructors thereby reinforcing a higher level of use of media in the classroom, and provide consultation to solve individual discrete problems in the use of media; (2) the center then provides these same services to teachers in training.

All of these processes have an impact on the teacher preparing to teach in the public school systems. On the surface the impact is not easily measured. It appears indirect and subtle. Nonetheless, the contribution of the university or school of education is as basic and necessary for overall effectiveness of the dissemination system as the mother bird teaching the fledgling to fly. The fledgling may very likely learn to fly somehow -- but he learns far more efficiently and faster with the added benefit of an effective model.

Ownership of Materials and Copyright

As with many legal matters, copyright questions are not easily isolated from related issues - in particular, marketing, economics, user needs and public interest. The following review of the USOE copyright policy (as applied to research and program grants and contracts) will take such issues into account in discussing the effects of current copyright policies on the dissemination of OE-sponsored educational materials.

I. Present Federal Copyright Policies

A. History

In 1964, the Bureau of the Budget, in response to the need for a single Federal policy with respect to copyrighting material produced in government activities, issued a "Memorandum to Heads of Departments and Agencies." This memorandum dealt primarily with definitions of government publications, that is, materials produced by government employees, contractors and grantees. Concerning grants and contracts, the Bureau of the Budget recommended essentially that no single set of rules would fit all cases, and that a considerable degree of administrative discretion would be acceptable within the broad principles considered generally applicable. The criteria underlying these broad principles are:

1. Contractors should be encouraged to produce materials of a kind and quality that will be in the public interest.

2. The dissemination of information developed under government auspices should be encouraged.

It was suggested that in some instances the public interest might be served by allowing the contractor to produce his work commercially if dissemination is more effective through this route. It also pointed out that the contractor's interest in acquiring the proprietary rights must be subordinate to the government's interest in using the work and in making it available to the public. Two of the several principles emanating from the above-mentioned criteria state:

1. A government contractor or grantee should ordinarily not be permitted to secure copyright in a work which is:
    a. produced for the government as the primary object of the contract or grant
    b. intended primarily for general use by the public.
2. A government contractor or grantee may ordinarily be permitted to secure copyright in a work prepared as an incidental or by-product of a contract or grant.[1]

In July 1965, the U.S. Commissioner of Education promulgated a policy stating that material produced through research activity or through a project with any financial assistance from the Office of Education would be placed in the public domain. It was indicated that a prime purpose of this policy was "to assure competition in the production and dissemination of different versions of curricular materials."[2] Contract language was also changed for curricular materials developed during research to the extent that the USOE would consider subsidizing the publication and distribution of these products if commercial producers would not do so. The policy change also permitted contractors to publish results of their work without prior USOE approval. Therefore, this policy not only covered proprietary rights as such, but also explicitly included elements of dissemination - publication and distribution.

B. The USOE Shift From Public Domain to Limited Copyright

During the past year there have been some changes in USOE copyright allowances. The public domain policy, implemented to improve the availability of educational materials, had proved instead to be a deterrent to dissemination. Industry had been reluctant to assume the risk of producing materials which could not be protected against such competition as premature publication by others. Furthermore, it appears that the originally proposed USOE option of subsidizing the production of materials derived from research had been found feasible neither technically nor economically. A commentary in Progress in Education indicated the dissatisfaction with the public domain policy three years after its inception, and the hope for improvement via a new limited copyright approach:

> "Publication of a new limited copyright policy in the Federal Register of March 1, 1968, promises to help resolve many problems related to the July 1965 policy of placing in the public domain all materials produced with research contract or grant support."[3]

Limited copyright currently means that the Commissioner of Education may authorize a grantee or contractor to secure copyright protection. Certain conditions must be met and the copyright extends for a limited period, usually not to exceed five years. These conditions are:

1. The grantee or contractor must show that copyright protection will result in more effective dissemination and otherwise be in the public interest;
2. He must give evidence that the materials are being made available to an adequate sample of producers;
3. He will provide other pertinent information as requested.

This policy of limited copyright was initiated in order to protect materials during development, testing and evaluation, as well as to provide an incentive for grantees and contractors to produce and distribute marketable materials. In line with this increase in alternatives, a Copyright Program Officer was added to the Bureau of Research professional staff to operate the limited copyright program, and to advise on copyright considerations which might broaden dissemination activities in accord with legislative developments.

C. Policy of Other Federal Agencies

A review of the copyright policy of several Federal agencies reveals a diversity of regulations which appear to relate to the mission of each agency and the objectives of their contracts and grants. The variety demonstrates the wide latitude possible under the 1964 Bureau of the Budget directive.

The Atomic Energy Commission, for instance, places copyrights in the name of the producer or contractor with assignment to the general manager of the agency. Depending on several considerations, the rights revert over time back to the original copyright owner.

The National Science Foundation, an agency involved in both basic science research and the development of educational science materials, maintains a special arrangement for educational materials. The principles underlying this copyright policy include that:

1. Educational benefits take precedence over all other considerations;
2. Both public and private interests must be safeguarded, while the agency at the same time will divest itself of either financial or managerial interest in the products and place the responsibility for development in other hands;
3. Present policy is designed to allow flexibility, and to accomodate modifications as information shows how the copyright policy supports science education activities.

It is clear that several agencies have evolved negotiable policy in order to meet changing situations, while generally following the Bureau of the Budget guidelines. Within the Department of HEW, the modified public domain policy (i.e., public domain plus possible limited copyright) of the USOE is unique. Other HEW agencies, for instance, permit copyright privileges to grantees and contractors if the materials were not the prime objective of the contract.

II. OE Copyright Policy as Viewed By Researchers and Producers

The issues arising from the present copyright regulation of the USOE are of concern primarily to three groups within the dissemination process: to the USOE itself which provides Federal funds for the several phases of research and in many respects represents the public; to the researcher who generates findings and principles leading to materials and refines these materials for experimental or pilot instructional use; to the industrialist, who further develops and adapts OE-generated materials in order to produce them and market them to school systems.

From discussions during this project with USOE staff, it appears that they have not yet been able to obtain a full assessment of the effects the 1968 broadening of copyright policy has had upon the actions of these interested groups, or on the promotion of better dissemination. Information on the number and type of copyright authorizations in relation to the type, quality and quantity of materials generated since the possibility of limited copyright was offered would have been useful in evaluating the effect of present policy on dissemination. Such information could provide more comprehensive understanding of the role copyright plays in the many phases of the dissemination process from the creation of prototypes through development, adaptation, production and marketing. A review of the range of reactions and experiences of the R&D operations (where OE-generated materials are created) and of AV industries (where OE non-print materials are adapted, produced and marketed), however, can shed light on the current efficacy of the modified domain policy.

A. R&D Researcher's Perspectives

One researcher based his comments on the fact that although contract specifications anticipate dissemination, the allocated funding is not sufficient to cope with all the problems and risks of dissemination. It is his belief that the researcher's responsibility is to develop the prototype and that resources from the private sector are needed to continue the development-production phases, and to put the materials into the market place. However, without the free opportunity for copyright protection, there is little hope of extensive dissemination of government-sponsored materials through the private sector.

This researcher also expressed the need for understanding of the university environment in which research is conducted and the requirements society establishes for individuals in academic environments. University researchers exist in the same competitive system as their teaching colleagues. It is difficult for the government sponsored researcher to accept the fact that his colleague is richly rewarded because of his full freedom to publish without restriction and with royalties. Yet, because of contractual agreements and copyright policy, researchers supported by Office of Education funds experience limitations in publishing the results of their research efforts in other than professional journals. This, in turn, may inhibit them from receiving professional rewards, both economic and intellectual.

The researcher also contends that Office of Education policy and contractual agreements do not sufficiently recognize the institutional support given to government projects, nor the long hours of personal dedication a researcher contributes. On a long range basis he believes that the present policy perpetuates "slavery", and that the evasion of the ownership issue is a threat to recruitment of the level of talent needed to do effective research and development for education.

Another researcher states that even limited copyright inhibits the dissemination process since it inhibits private or non-private involvement. He suggests that the five-year limit on protections is not sufficient for these organizations to invest in the development of materials. The channeling of publication through government agencies is not satisfying to this researcher. He also suggests that possibly a model for copyright policy has been created in the Department of Health, Education and Welfare's institutional agreements concerning patents. He expressed a reluctance to request a developmental copyright as it might jeopardize the ensuing production phase, commenting that with educators being new to mass development and production, there need to be joint efforts in establishing guidelines with the collaboration of the researcher and of industry. The researcher observes that he, the researcher-developer, produces the prototype for a first edition with constant revision and he believes that collaboration with industry in continual validation of revision is a necessary process. A significant issue arises since no matter what the relative size of Federal funding is, the Office of Education determines the copyright policy.

From another university-affiliated research center came the commentary that the researcher should not only have control over materials development and packaging, but should also set specifications for teacher training programs. Researchers at this center also raised the question of who is responsible for determining when material is marketable. They believe that it should be a joint decision made by research, industry and the Office of Education, i.e., that the Office of Education should be a middleman between author-researcher and industry. It was his opinion that if Federal financial support is indeed seed money, then the researcher should be able to regain some of the investment through copyright royalties for continued operation. The researchers also suggested that the complexities of the Office of Education's copyright policy and industry involvement are compounded with university constraints.

From a different perspective the researchers interviewed noted difficulties in using copyrighted materials in the research-development process. It appeared to be more economical to create original materials than to obtain clearances or pay royalties on published materials. The economy is not in dollars but in research time, a fairly expensive commodity.

In general, many researchers place the greatest value on their creative and research efforts and believe that when the materials are disseminated their institutions should be rewarded with full copyright privileges. In order to preserve their limited time and flexibility, many scientists do not want to devote extensive efforts to the adaptation, production and distribution phases of dissemination, but would like, through copyright, to maintain control during these phases of the dissemination process. They also acknowledge that copyright should take into consideration the direct and indirect levels of Federal funding which may vary from a significant to a small proportion of the total investment.

Another research-development center reiterated the viewpoint that copyright affects the originators' control over the dissemination process and that copyright on revised elements of materials taken from the public domain denies the originators control of quality. It is their opinion that the originator should be permitted to select producers chosen for quality rather than cost, with choices based on sound criteria for all phases of dissemination and marketing, including teacher training. They believe that revisions should be under the direct control of the originator with revision costs borne by the publisher.

Another viewpoint concerning Federally funded research and development is that recognition be given for co-joined funds, i.e., funding or services from a non-Federal source used in collaboration with Federal funds, through royalty sharing, so that research centers can develop a degree of financial independence. This might allow for longer-range planning and relieve the Federal government of a portion of the continuing financial burden. This educator again emphasized the reluctance of industry to become involved with Federally funded research and development centers because of copyright limitations.

One research administrator with both Federal and foundation financial support finds it extremely difficult to reconcile the different copyright policies of these two funding sources. He emphasized the need for a reward system for researchers and for an environment that will enhance the movement of a prototype into the marketplace. Again he pointed out that industry has a needed marketing capacity but that it does not want to publish materials in the public domain.

From another source, information was received on an incidental educational material derived from ESEA Title III funding. It appeared that the number of requests for the material warranted production but the school system was unable to interest industry because of lack of ability to control ownership. The project director did not know of the avenue provided by the new limited copyright policy and was too involved with other responsibilities to investigate the possibilties.

B. Industry Perspectives

Let us consider how several representatives from industry view the publication of materials under the present Office of Education policy and system. Although this study focusses on non-print materials, reactions have been received from both print and non-print producers and distributors. Today these are often emerging as integrated industries capable of producing packages of multi-media instructional materials. There are, of course, still specialized producers whose opinions also have been sought.

A representative of the audiovisual software and hardware industries expressed the concern industry has for the free-competitve system needed for the production of materials generated through Office of Education support, but questions the quality of these materials.

A small film producer expressed disinterest in marketing anything that is in the public domain. He was concerned at the ease of reproduction of film materials via tape and noted the need to have copyright to protect their marketing potential. The producer did comment that he was not aware of the limited copyright policy and at first glance was not averse to it.

Comments from a multi-media package producer clearly expressed his attitude toward USOE-funded materials from the Regional Laboratories. Under present circumstances, the company has no intention of producing and distributing such uncopyrighted materials, nor will it accept the five-year limited copyright, for the following reasons:

4

1. Material produced by Laboratories and R&D Centers require additional developmental capital as they are not ready for mass marketing to school systems.

2. For economic reasons they cannot accept marketing terms imposed by Regional Laboratories (i.e., continuing Laboratory control of revisions).

However, this company does market materials developed by a Regional Laboratory under Foundation support. It also undertakes its own funding of educational research and development.

Another major producer (primarily of print materials) wholeheartedly endorses the public domain policy, believing that public ownership provides the best access to materials since materials do not emerge from research in marketable form. He considers that it is not the responsibility of the educational researcher to adapt or determine the cost-benefit ratios of the materials he creates. This is the responsibility of the producer who must invest the risk capital needed to do market research and reshape the material into marketable form. The revisions developed through the reshaping can then be copyrighted. He acknowledged that copyright is the conventional means to recognize authorship and creativity with variable rewards, but suggested that other rewards could be provided to the originator through agreements outside the copyright system. This publisher also expressed the need for a continuum of testing and validation of educational materials as long as they are on the market, observing that this responsibility is that of the publishing house.

A major producer and distributor of educational films reiterated the view that copyright is no problem with government materials in the public domain. He suggested that this is a better alternative for more effective dissemination. This company's policy is that it is willing to take the risk that competitors may also market the same materials in the public domain. Implied here is the company's confidence in its reputation as well as its ability to package the product in a highly desirable form. And it would appear that the reshaping of the product would permit them to copyright the revised version.

A representative of an integrated materials producer, print and non-print, suggested that using materials from the public domain which are timely or which could add a new dimension to an instructional package could be beneficial to education but that no industry could sustain business through this approach as it would not own its basic material.

An educator with experience as a superintendent of schools, director of a non-profit organization and now an officer of a university, remarked that almost all products of educational research must be considered raw materials. Because translation, adaptation and modification are necessary in order to use the materials for instruction, the Federal government should consider the importance of industry's investment in converting them into marketable forms and provide them ownership rights.

III. Summary of Critical Copyright Issues

A. For Researchers

The researcher is essentially concerned with the maintenance of the integrity and quality of his material as it moves through the development-production-marketing phases of dissemination. How can this criterion be achieved? Is copyright the best means for exercising control? Other questions include: Who is the best judge of quality? The development of a prototype is not synonymous with the production or publication of a high quality, marketable material. Is there a role here for USOE or for the consumer? Does the researcher have the knowledge and skill needed to market or utilize marketing facilities effectively?

Researchers require appropriate rewards so that quality of research will be maintained and for the recruitment of new talent. What is the intent of Federal funding in relation to the continued growth of research skills in education? Is such funding aimed only at relatively short-term contracts and grants, or is some of it meant to enhance long-range funding and planning? Should the researcher eventually become financially independent of Federal funds? If so, how can Federal funding and contracts help? If not, what is the responsibility of the USOE to the researcher in the context of encouraging excellence of research? Is it sufficient stimulation to reward the researcher only for the investment of his time, or should there also be recognition for his skills through incentives that would assure that his research efforts are continued?

In particular these rewards must be appropriate to the academic environment. What recognition should the USOE provide to researchers in academic environments who must compete with other scholars within the academic reward system? What responsibility does the USOE have to the academic institutions themselves which make it possible for researchers to contract for OE-supported research programs?

These economic and professional issues overlap with copyright issues, and have implications beyond copyright policy regulation.

B. Critical Issues for Industry

In general industry is reluctant to produce and market materials now in the public domain because the competition risks in a restricted and uncertain market are too great. In addition, the materials resulting from R&D work are not usually in a form adapted to broad enough educational markets to ensure a profit. Industry and many R&D scientists recognize that the costs of adaptation, marketing and service are high. Is it in the public interest for the USOE to deal with these circumstances? Should it co-sponsor the development and production of quality materials with industry? Can this be done through changes in copyright policy?

Most commercial companies contacted stated that for industry to cover its investment, it needs to have exclusive rights over a product for a reasonable time period which may extend beyond the five years of the limited copyright. However, much of industry also recognizes the need for continuous market evaluation of products through testing and validation with subsequent revisions. What should the role of the researcher-developer be throughout these phases of the adaptation and dissemination process? What function might USOE copyright policy have in determining such a role?

Industry is concerned about its relationship with those R&D scientists who seek to specify adaptation and marketing terms. This attitude tends to minimize the application of industrial expertise and may lead to considerable differences of opinion. In prospect it appears to many companies that such researcher control would impose intolerable developmental costs. Should the USOE take a mediator role in seeking to utilize the unique capabilities of both researcher and industry in order to encourage production of quality educational materials which can be disseminated to a broad range of users? Might the USOE play another role such as defining optimal terms for dissemination?

C. Critical Issues for USOE

The question of what the Office of Education expects as a result of its research funding appears basic to the role of copyright in the research-development-adaptation-production-marketing-use sequence. How can the use of copyright support the immediate objectives of OE-funded R&D programs? How can it support longer range interest in encouraging the continuation and improvement of educational research?

If the Office chooses to use copyright policy to improve the dissemination of OE AV materials, how can it evaluate the effect of a modification in the copyright process? How can it evaluate changes in the total system which are generated by changes in copyright?

These are difficult questions which are exceedingly complex to answer. Perhaps the best available cue lies in the extent to which the policy of public domain, and the newer policy of public domain modified by limited copyright have resulted in more use of OE-generated AV materials: there is some evidence of use, but clearly no stampede. Would more effective dissemination be realized under a system in which the Office exercises greater control and leverage through new and more flexible copyright approaches?

In order to bring the copyright regulation issues into the framework of a dissemination process that can be influenced by the USOE, a number of requirements need consideration:

1. Does the policy contribute to the continued flow of new materials through the R&D and adaptation processes to production and into use?
2. Does it increase ease of access to school system users at optimal costs?
3. Does it increase the quality of materials available to users?

4. Does it increase the level of utilization, either within the traditional classroom or where new technologies are being applied?

5. Does it contribute to keeping materials appropriate and up-to-date by encouraging continued evaluation and revision?

It is clear that copyright regulations modification is not a panacea. However, it is an important element that can help or impede. Stated in another way, it is a necessary but not sufficient avenue to improved dissemination. A dissemination system is recommended in another portion of this report. It is based on certain assumptions closely related to copyright policy, including:

1. The need for appropriate reward systems to provide incentive for the development of new materials, and their dissemination and utilization.

2. The interdependence of the R&D/government/industry components of the process of dissemination of AV educational materials.

IV. Implications for the Office of Education

The USOE's copyright and dissemination policies would optimally provide a system which recognizes the rights and responsibilities of OE AV materials generators, and which encourages effective interaction of researchers, developers, producers and marketers of AV materials by means of equitable rewards to these groups.

The possibility must be acknowledged that if there is not a change in the present copyright policies, or broader application of more recent improvements, the gap in the R&D-adaptation-production-dissemination chain may grow wider.

The Office of Education needs to determine the type and degree of ownership required to assure the distribution of AV products derived from Federally funded research. In order to help guarantee continued smooth dissemination of AV materials, the copyright policy should ideally be one of active leadership by the USOE throughout the dissemination process. To be maximally effective, copyright options should be varied and flexible, including appropriate mechanisms for negotiated copyright contracts to reflect the requirements of the various groups and changing needs.

A variety of options is open to the Office with regard to how active or passive a stance it takes concerning the use of copyright as leverage to increase dissemination. These range from:

1. Leaving it to potential developers to seek out OE AV materials and request whatever types of copyright are available.

2. Publicizing available R&D results, and techniques for obtaining range of copyrights available.

3. Developing programs based on a flexible range of copyright techniques for the development, production and dissemination of AV materials resulting from OE-funded R&D including:

    a. Campaigns to inform as many potential adapters and producers as possible of copyright options and available materials.

    b. Cooperative planning with R&D staffs and industry.

    c. Development of comprehensive plans for development and utilization of R&D AV products which might then be offered to industry for competitive bidding as offshore oil leases are.

4. Using copyright options as a means for obtaining from industry the most favorable terms for dissemination. This would require developing criteria for dissemination, quality control, etc.

5. Using copyright options to establish a balance between R&D and industry in the exploitation and dissemination of materials.

C. Final Note

To improve dissemination of OE-generated AV materials, the entire development, production and delivery system must be anticipated so that modifications in materials and technique designed to improve quality, dissemination and utilization can be undertaken. Control of copyright is significant among possible USOE interventions, since through it the Office of Education has considerable leverage over the dissemination process. Consistent with the copyright law, a wide range of options in awarding ownership rights should be available to the Office so that it can deal appropriately with the purposes of AV materials, the varying kinds of and changes in technology, needs for evaluation and modification, needs for incentives, and economic realities.

Among the structural or organizational alternatives available to USOE is the establishment of an Interform Corporation, something like the TVA, which would have ownership or control of all copyrights and patents resulting from USOE funding. Such a corporation would have the authority and capability to make whatever use of the copyrights or patents would benefit education. Free of other responsibilities but working closely with USOE, it could award limited or full copyright to private parties or companies, contract for production while keeping ownership, or produce materials itself when the risk is too great for private investment or the audience too small. With such options available, income might be obtained from high-return items that could be applied to financing low-return or high-risk materials or other pertinent productive endeavors.

The directorate of such a corporation would be appointed by the President of the U.S., the Secretary of HEW, or the Commissioner of Education. Membership might include leading educators, perhaps from the educational laboratories, the academic world, industry, state and municipal educational managers, etc.

Its function would be to complement the work of the educational laboratories, R&D centers, etc., by assisting them with legal, economic, management and other responsibilities not part of the essential function of those agencies.

Such an agency would also have the responsibility and capability to evaluate the effectiveness of copyright and patent use by continually monitoring the distributive, legal and economic aspects - since the essential question is how the leverage inherent in copyright can be manipulated to benefit the ultimate user of OE AV materials, the student.

Footnotes

1 Memorandum to Heads of Departments and Agencies From Assistant Director for Legislative Reference, Bureau of the Budget, December 4, 1964.

2. Julius J. Marcke, "Copyright and Intellectual Progress," Fund for Advancement of Education, 1967.

3 Progress in Education Through Research, Development, Demonstration, Dissemination and Training; Fiscal Year 1968 Annual Report on Cooperative Research, U.S. Office of Education, 1968.

Economic and Political Factors

Current Conditions

American education at the school district level seems to be caught between converging pressures. Teachers press for higher salaries. Parents demand improved curricula and smaller classes. Taxpayers resist bond issues and tax increases. Some administrators and industry urge the improvement of efficiency by expenditures for new equipment. Meanwhile obsolescence, a rising tide of vandalism and the wave of inflation continue their inexorable encroachment.

This is the economic and local political context in which we must consider the Federal intervention into the dissemination process.

I. Effect of Federal Funding

There is substantial evidence that the influence of Federal funding on State and local programs has made possible many developments in the use of audiovisual materials which conceivably would not have taken place without these financial resources. The Federal programs influencing these programs include ESEA, NDEA, and the Educational Professions Development Act. Funding under NDEA and ESEA Titles I, II, III, and IV have given the strongest impetus to the acquisition of audiovisual materials and the development of innovative programs utilizing these materials.

A. New Relationships, Training and Programs

There is a feeling among educational leaders that school systems would have suffered very badly without Federal money during the past five to ten years. Not only has financial support made it possible for equipment and materials to be purchased, but it has provided the needed impetus and energies for change. New relationships have been created as school administrators have reached outside of the school system for consultative help from university and industry experts. Many new programs have been stimulated which are expected to continue under the auspices of State and local funding. New services and resources for teachers have been established with accompanying in-service training programs to enhance their utilization. It must be cautioned that services and resources have frequently been established with insufficient funding for adequate staffing and training, thereby diminishing the likelihood of effectiveness.

B. Negative Factors in Federal Support

School administrators and program directors have not been totally enchanted with Federal funding for a number of reasons. 1) Short term funding, with little time for planning and staff involvement is often a questionable means for improving education. Even if time for planning can be provided, the experience in determining needs and then planning programs to meet the needs may be in short supply. More often, it is difficult to try to bring about changes through long range planning dependent on Federal funding because of unreliability of the source of funding. The danger of such funding lies in the morale-destroying process of raising the level of expectation only to find that the developmental period for such a program exceeds the political viability of the funding. There are many service and training programs which have perished or become moribund before bearing fruit as a result of lack of continuing support from Federal, state or local levels.

2) Isolation of programs may result if Federal funding tends to categorize programs. Information flows through a particular categorized channel, such as Title I, and there is relatively little cross-fertilization and exchange with other programs. There are diverse opinions as to whether or not this kind of categorization continues on the local level. It is likely that the quality of program coordination varies widely.

3) The effect of other priority programs on school systems such as the necessity to undertake staggering costs of school lunch programs or teacher pay raises also set significant economic limits. The result is a cut in operational funds for curriculum development with the political situation permitting the school system no alternative.

The impact of Federal program support has caused a change in perspective and expectations of teachers concerning compensation. Without prejudice to the merits of teacher aspirations, the effect is that it is causing administrators and school systems to explore differential salary schedules as an alternative to the spiralling salaries being demanded regardless of job responsibilities. The competition of high priority demands from building, maintenance, and other sectors of the education budget cannot be dismissed. It is important that balance be maintained in the allocation of funds and that a sufficient amount be provided to produce significant effect.

4) Questions were raised as to the value of Federal funding of educational research since its findings do not appear to be useful. The gap between what is happening in educational research and the needs of schools appears very great to the educator "on the line." It is likely that a program demonstrating how R&D leads to effective education would improve the relationship of researcher and educator.

5) The absence of follow-through by R&D agencies suggested to some the need for dissemination programs being written into contracts with appropriate funding and specific objectives to achieve the purposes of dissemination. Stress was put on the need to close the gap between research and actuality and isolated innovative projects. Some project directors feel a commitment to disseminate the results of their efforts but find their hands are tied due to lack of personnel, plans, and money. Others reject such a commitment or feel it can be better accomplished by others. It would appear to be truistic to suggest that the dissemination should be allocated to those best motivated and equipped to achieve effective distribution.

6) Lag in Federal payments: It is fairly well established that current budgetary and funding procedures of Congress constitute a problem for State and local program and budget staffs. The final approval of appropriations 6 to 9 months after budget approval makes effective allocation and use of the funds difficult.

7) Control and constraints on spending: Several AV directors stated their preference for lump sum grants for dissemination with subsequent evaluation of the programs to determine effectiveness. Each stated that local needs differed and could only be satisfied by unique programs. While uncontrolled grants to States may leave something to be desired, the development of comprehensive dissemination programs unique to each state but satisfying overall Federal criteria does offer a solution to the need for state individuality.

8) Budgeting and economics: One of the significant obstacles to effective dissemination of AV materials rests on the unfamiliarity of many educators with the materials and the market. Budgeting, ordering, procurement are frequently ruled by myth, whim, faulty advice and short sighted economics. School people are familiar with the purchase of books and even of some hardware items. However, the relative advantages of purchase, lease, rental, etc. are less well known and the fine points of planning and budgeting are generally unavailable.

Where training programs in the dissemination and use of media are planned, other business and economic aspects should not be overlooked. To support such programs a national research program into the economics of media use should be maintained and might serve as a training and resource center for state and municipal planning, budgeting and procurement personnel.

Highly valuable Federal and state expenditures affect marginal expenditures such as AV procurement more than many other parts of the local budget. Such a condition suggests that:

a. the most economical methods should be employed for procurement
b. such alternatives to purchase as rental and loan must be available in low expenditure years.

Such needs suggest the advantages of regional and cooperative systems.

II. Regional and Cooperative Service Centers

There is interesting evidence that the value of within-state regional resource centers for services materials and staff development, and cooperative centers are economically feasible and necessary. Cooperative centers not only provide central acquisition points for loan of materials but a central buying agency which can take advantage of large scale buying for diverse items on a competitive basis. In most instances the loan program is for 16 mm films which are too costly for a local school or a small school district to acquire. There is a tendency for such centers to be phasing out lower cost items such as filmstrips and transparencies. Attitudes towards such centers vary, not only among school systems, but among administrators of such units. One administrator of a regional instructional materials center sees this investment as being one that will open new horizons for teachers in the region. A school system which has been participating in a similar center within the same state is now withdrawing because the center cannot adequately serve the school system. It would prefer to set up its own 16 mm film collection, investing about $15,000, with 60% of the films acquired on rental basis and 40% purchased. This administrator also indicated that the state is establishing staffing criteria for in-school media or library centers which the schools will not be able to afford. It is his belief that more money needs to be put into teachers' salaries and the development of teacher aides than into administrators' salaries.

Another school system participating actively in a regional service center remarked that the center has the financial resources to develop staff workshops. It can bring in the help of outside experts, which are sorely needed, but which the school system cannot afford.

Comprehensive State Programs

There are evidences that state education departments are attempting to become more sensitive to funding and programming needs of local education agencies and the influence of federal funds on this process. One state education department has recognized the tremendous duplicative dissemination efforts going on at several levels and through a multitude of programs, and is now attempting to reassess its efforts with the hopes that a coordinated approach will bring about a more effective use of money at the state and local levels.

Another state education department has moved further ahead with an ambitious program to consolidate the use of Federal money in program development on the regional and local levels. On the state level it has, with the approval of the Office of Education, consolidated the administrative funds from the many federal programs operative in the state. This has led to the packaging of programs Federally funded for the regional and local education agencies. The intent is to permit administrators to develop comprehensive and unified programs utilizing funds from diverse sources. The alternative to this would be the administrator applying for funds from 14 different Federal programs for 14 discrete programs in, perhaps, staff development. It is also the intent that the method of application for funds through a consolidated approach will permit the administrator on the regional and local levels to develop a base of information and many of the skills necessary for comprehensive planning. The state education department points out that this approach is intended to avoid duplication and provide flexibility within the criteria of categorical aid as provided for by the Federal legislature.

This trend points to one of the recommendations of this report. The development of comprehensive state-wide AV programs would contribute much to the more efficient use of Federal, state and local funds and would establish a floor under state programs that would assure minimal resources to each district. The development of goals and criteria for such a program should be considered as a valuable contribution to effective dissemination and utilization of AV materials.

III. Economics of Industry

Instructional materials, including non-print, as used by the classroom teacher today come primarily from two sources, commercially prepared materials or teacher made materials. Teacher made materials refers to those actually made by the teacher or by a materials resource center within the school system. The cost of commercially prepared materials is of concern not only to the administrator but to the producer-distributor. One administrator commented that the cost of 16 mm films increased 30% during the past ten years. However, it is difficult to compare this cost with the cost of school prepared materials as the cost figures needed for comparison are not available. A school administrator whose system has become extensively involved in preparing instructional materials for an innovative program remarked that it would be more economical for the school system to purchase the needed materials. They would purchase such materials if they were available on the commercial market.

One of the problems for the commercial market in becoming involved in the development and production of materials needed for an innovative program is that the degree of risk capital required is not justified by the market potential and the low return on sales. One industry spokesman commented on the high cost of sale necessitated by procurement procedures and that it could take up to one and one half years for a sale to be accomplished.

Industry has differing attitudes towards the development of materials derived from Federally funded research. In some instances, industry would like to utilize such materials but perceives that channels for communication and negotiation with the U.S. Office of Education have not been open or conducive to such action. This appears to be changing. Other segments of industry express the concern that it is not economically feasible for them to utilize such materials and it is to their benefit to develop and market their own materials. Among the areas of industry which would like to work with USOE, there is an indication of preference for a relationship on a cooperative basis through negotiated contracts or grants. Undoubtedly there are diverse reasons underlying these two attitudes from industry which need to be explored further if industry is to be an effective means for exploiting the dissemination of non-print materials.

In the school-industry relationship there is an economic factor which needs to be considered concerning the use of non-print materials and the technology of education. The package approach of producing multi-media kits with interrelated materials is sometimes too costly for the school system. This is a factor that is recognized by industry as well as the schools and is one of the reasons why school systems would like to be able to select out units from a module without buying the total kit. It is their reasoning that it is cheaper for the other components of the package, to be produced by the school system. This reasoning may or may not be economically true as school systems do not tend to cost out their in-house production services. These services include not only the cost of production but also the training of people to produce the materials. And there is also the factor of duplicative efforts as this situation is transferred from one school system to another. There appears to be a need for a compromise solution which will benefit both the consumer and the producer and at the same time assure economical use of public funds.

IV. Economics of Research and Development

There is a significant consensus that the effects of funding research and development programs will have no significant effect on the education community without a strong production-distribution component that is supported by a funding base adequate to accomplish the job. Another key factor is the organization of research and development into related programs that have a strong possibility of application. It appears that research and development funding to date has been greatly fragmented and that without an integrated base it is difficult to translate research into cohesive programs for application. Several critics of the Office of Education's research funding policy have stated that a higher percentage of research and development dollars needs to be directed to development. Reference was made to the fact that the Department of Defense applies $4 to developmental work for every $1 spent for basic research and it was suggested that this is a model for the USOE to emulate.

Remarks from administrators of university R&D Centers and from Regional Laboratories indicate that these two components see themselves in a competitive relationship in their bid for dollars from the USOE and that this situation jeopardized their continued existence. Perhaps this situation is one which is leading some of the centers and laboratories to seek financial support from other funding sources. It is interesting to note that one of the regional labs programs receives only 10% of its funding from the USOE.

The National Science Foundation's report[1] on Federally funded research and development center activities includes criteria for the inclusion of centers in this listing. One of these criteria specifies that information dissemination should not be one of the primary activities of such centers. Included on the NSF list of Federally funded research and development centers are USOE funded R&D Centers and the Regional Laboratories. It appears that there is confusion within the educational community and within these centers as to the roles they are intended to fill as well as the level of expectation for economic support from the USOE.

The funding of research and development programs needs to be related to the objectives of such activities which will then make it apparent that there is a phase in the dissemination process which is being overlooked, both from a planning and funding standpoint. And within this context an environment needs to be created which will entice industry into becoming actively involved in these phases of the dissemination process. The comment was made by several actors in the educational system that it is not the responsibility of the federal government to be involved in the competitive production and distribution of educational materials, but it is its responsibility to support and encourage the free enterprise system.

Whichever direction or emphasis is sought by the policy-makers in education, it is evident that the national welfare and economy will not be benefitted by wasteful duplication or by a discontinuous and fragmented system that leaves large quantities of R&D on the shelf and devotes sizeable amounts of energy to the production and distribution of less adequate materials.

Political Factors

Political factors in education exceed by many times the seemingly insurmountable issues that fill the daily newspapers. The political forces affecting a dissemination system flowing in 2 direction between the national and the local level are diverse and complex and include not only public political actions but also the action of political forces emanating from private groups. The configuration of political forces at any one point in the system will have significant effects. The complexities tend to become exceedingly involved at higher levels in the system. On the local level there are the forces within the community, teachers, students, parents, other members of the community, school board, civic organizations. However, as we ascend the political and administrative ladder these forces become harder to grasp and deal with though no less compelling. Further, they are supplemented by competing geographic, economic and other partisan pressures making direct response and satisfaction exceedingly difficult.

Educational issues frequently become political issues and the objectives of education tend to get lost, out of focus, or distorted. And a dissemination system designed to serve the teacher and the student must consider the manifold political forces operating throughout the system. As an example, the interraction of teachers' professional groups, a federal agency, the local educational agency and the PTA may produce a complex set of issues, difficult to resolve because of the parochial views of each of the contendors. Whose responsibility is it to be sensitive to the politics of this situation? And how do such perceived threatening situations impede the development of educational institutions and the improvement of services? These political situations frequently add to the cost and difficulty of operating a system yet they are, in the main, methods of achieving consensus and providing expression and checks and balances.

Many non-government organizations now servicing and selling to local school systems remarked that it is politically expedient to make contact with the appropriate people in the state education department and the superintendent of schools but that the concentration of effort should be with the curriculum specialists and supervisors because of the influence they wield in the decision-making process.

Innovations are being introduced in one urban school system because of the pressures being exerted on the school board by community forces. The product of the educational system as seen by the community through the dropouts who disrupt the city has caused the board of education and the superintendent to attempt to develop a crash program to counteract the problem. All efforts are being made at diverting the problem at the high school level which may just result in a continuing wave of problems confronting the high schools with little time, effort or money being directed to the problem at its inception which undoubtedly is prior to high school. This is the educational result of the political force of the citizens of the inner city in redirecting methods for achieving educational objectives. By the same token, other aspects of the community can have comparable political force in controlling the utilization of financial resources, thereby expressing their self-interest which results in a limiting of choice for other members of the community.

A regional commercial educational resources center director expressed the viewpoint that it is both politically and economically advisable to involve the teachers and school board members more actively and that it is more likely that financial commitment for significant capital outlays will be made when they are involved in the decision-making process.

In the midst of the traditional political complexities along all points on the continuum there are new forces emerging which appear to be moving on a confrontation course. And it appears that within these confrontations the possibilities and opportunities for changing school systems is more possible than through the traditional channels. In particular there are the issues of student unrest with not only higher education but with high school and perhaps on lower levels. And there is the militancy of the teaching profession which has risen to a level today which in many instances leaves superintendents and administrators with little power in the wake of negotiations. These issues are not always educational struggles but many of them tend to be political power maneuvers. The group in power, whether or not they have the legal authority, can enhance or inhibit a dissemination system dependent on whether or not the objectives of the system are compatible with their objectives.

Another factor influencing the political scheme of education is the changing concept of the schools operated for grades K through 12 to the concept of the schools being community educational centers. In the traditional approach adults without children had no apparent vested interest in the schools, but as the focus of school systems changes to serve adults as well as children in the community, political pressures will change.

Changes can be expected among other segments of the educational community as their interests and concerns become more vocal. One teacher education consultant expressed the viewpoint that teachers colleges resent the political and legislative bypassing of these institutions as new programs are developed in local school systems by state education departments. Teachers colleges would like to be involved in a triangular relationship with state education departments and school systems in order to increase the flow of communication. It would seem that, as it becomes politically expedient for such relationships to develop, a stronger leverage for dissemination will develop within the system. And it is also conceivable that other new relationships will develop as political needs emerge or the nature of existing institutions change.

If educational institutions do not or are not able to respond to today's requirements, then it is conceivable that it would be politically and economically feasible to develop new approaches to the problems of education. This is being demonstrated now as a school system, unable to deal with the dropout problem, contracts with an industrial firm for specific performance achievement to be accomplished during a definite time period. If the terms of this contract are fulfilled it is quite possible that the education industry will provide more contract service to school systems to help them overcome their deficiencies. And if teachers do not learn how to use non-print materials as a part of teaching strategies and it continues to be apparent that the multi-media method is more effective, industry may contract for larger portions of the teaching-learning job.

During the course of interviews concern was expressed by several staff members of state education departments over what is perceived to be a lack of sensitivity by USOE to the political nature of state education departments. The dissemination of information from the USOE within the department is dependent on the position and views of the state education commissioner. Concern was also expressed over what may be differences in national political priorities and state priorities. As an example the problems of the disadvantaged may not reflect the priorities of the constituency of a particular state.

Another important factor on the state level is the role the state legislature can have in making policy decisions effecting education; these decisions may range from curriculum to functions of institutions.

The state education people expressed the opinion that because of these problems and analagous problems at the U.S. Office of Education there does exist a gap in the dissemination process but that they would like to cooperate in closing this gap. It was suggested that information from the USOE be sent to position titles within state education departments rather than to the commissioner or superintendent. The need for help in overcoming internal political problems as well as in program planning was expressed and the hope that such leadership could be possible from the USOE. There was generally a consensus that collaborative efforts need to be made on the federal and state levels to overcome or circumvent political problems which tend to impede the development and objectives of education. As a consultant in the dissemination process remarked, there are problems which arise in interagency cooperation at all levels, and there is a need for the development of a system which circumvents politics in order that system effectiveness not be dependent on whim or personality. There needs to be a system developed to deal with long-range problems and which enhances interagency cooperation so that at each point in the spectrum the various participants can understand and appreciate the value of their contribution in the system.

Footnotes

1. National Science Foundation, Federal Funds for Research, Development and Other Scientific Activities, Vol. 17, FY 1967, 1968, 1969.

A Pattern of Recommendations and Alternatives

Investigation of the current dissemination process suggests that there are several policy areas which when they are confronted lead to a pattern of recommendations designed to implement the policy decisions. In some of the cases a negative decision would suggest no interventions; in others the level of intervention may be determined by the character of the policy objectives established. The several policy areas include:

I. Level and nature of public-private cooperation (coordination) in achieving improved materials and dissemination. The key sub-issues include:

- a. copyright
- b. return on risk capital
- c. quality control and evaluation

II. The decision to undertake a comprehensive and continuing assessment of the nature and needs of the users of non-print educational materials.

III. A decision concerning nationwide information storage and retrieval as it relates to the dissemination of non-print educational materials.

IV. Decision concerning the locus of new efforts to improve dissemination:

- primarily Federal
- primarily State
- primarily local
- primarily private
- development of requirements and criteria

V. The Comprehensive Educational Materials Dissemination Program

I. It has become evident that Federal involvement with the non-print media relies heavily on funding for research and development and grants - in aid to state and subsequently local systems which are applied to the purchase of equipment and materials. Only a few programs under Title III and the Bureau for the Educationally Handicapped etc., have carried through the entire system. Private industry, on the other hand, devotes a relatively smaller portion of its expenditures on R&D and devotes more of its efforts to adaptation of materials to user needs, production and dissemination. The non-profits do not fall into either category efficiently, however the proportion of the material market they provide is not sizeable.

If political and economic considerations permit, it may be to the advantage of education and the nation to accept what appears to be an effective division of labor.

It is one whereby government funds are expended via the existing research and development machinery (i.e., universities, educational labs, R&D centers, and non-profits, etc.), following which the products are transferred to the more efficient machinery of the private sector for adaptation, production and dissemination. Such a transfer need not be a "giveaway" but could be based on a mutually satisfactory system of assignment, royalties, or the public auction of limited or full copyrights.

Such a system should also have its protection for the public and the researcher. Ownership might be divided between the R&D unit and industry or whatever would be a satisfactory arrangement to optimize motivation, efficient production and effective dissemination. Flexibility with public protection would seem to be the key to a sound system.

The section on copyright describes the background and detailed recommendations to deal with this issue.

Economic risk is another factor which may be strongly determining. There are materials that are needed by education that industry finds it unprofitable to produce and distribute. Such cases call for a system that is capable of either subsidy or other publicly sponsored production and distribution. A section on public dissemination systems deals with this problem.

The maintenance of high standards of quality and the production of appropriate materials may not be a primary issue at this time. The major producers appear to be performing in a very responsible manner. However, it is likely that the establishment of sound criteria for practice in the non-print area would benefit industry, education and the public. Methods for achieving such criteria are discussed in sections on user needs, system requirements, and criteria for sound materials.

The concept of an interform corporation (public-private non-profit) has been proposed. The requirements for such an agency or any other suitable mechanism would be the ability to deal with the legal, economic and monitoring aspects of the supervision of rights to non-print materials produced with Federal funds. It might also monitor issues of educational quality control if such a function is acceptable to academia, government and industry. Policy management of such a corporation or other instrument might be shared by the same three sectors.

The utilization of dollar income from such an operation will undoubtedly prove to be a complex and delicate subject. It is possible however that such income could be employed in the development, production and distribution of necessary but low-volume, high risk materials in which the private sector is less inclined to invest.

II. Need Assessment

For over a decade the U.S. Government has played a significant role in research contributing to the development of non-print materials for education. During this period a number of select committees have contributed effectively to the decision-making process. However, the decision-making process has been based primarily on expert opinions.

Such consultation operates at a higher level of efficiency when it is supplied with sound data and hard information about conditions in the educational system.

The National Center for Educational Statistics has supplied required demographic and population data. Information about striking or high public interest problems such as reading retardation are available from several sources. However information about current and future needs in education is sorely lacking. Information of several types is required:

a. current and projected subject and curricular needs
b. current and future educational system requirements i.e., improved information systems, teacher support systems
c. software to meet emerging hardware
d. new training programs for educational personnel.
e. information on production and plans of other producers.

Until such information is available for use by advisors and decision-makers at all levels of the educational system, plans, budgets and policies have rather insubstantial bases. The risk in major investments can be minimized if it is established that the programs or material meet an established need. It is also wise to be aware of the supply and effect of alternative solutions or supplies to meet the need.

Sound commercial practice would hesitate to make an investment without thorough market research and the assurance that the system necessary to market and deliver the product was available.

The interesting and compelling feature of this decision is that it is not likely to be an expensive or a difficult process. A considerable store of hard data is available in the form of national achievement test results. Increasing use is made of computers in recording grade achievement in schools and colleges. Less quantitative but equally valid and valuable would be the experience and opinion of key educators, consultants, sales personnel, teacher educators, etc. A large panel of strategically situated expert observers could supply a network of information with the capability for fairly precise statements of problems and needs. As the skill of the information system staff improved so would its precision.

Such an information-gathering mechanism should have the capability of monitoring the several levels and "gates" in the dissemination system and the utilization field. Not only is there a need to know what skills and subjects need material, it is also necessary to know whether utilization skills exist or will exist to permit the use of a new material, or whether training programs will be needed. It is often critical to know about the availability and location of hardware to serve a new set of materials or of software to fulfill the equipment. The recent unavailability of software for CAI equipment is a relatively minor example. The inability or disinclination of teachers to use the equipment purchased with Title I funds is a more significant case in point.

As society becomes more complex and its scientific and professional education programs more demanding, the requirement that we anticipate future needs becomes more relevant. Yet this function continues to be performed on a project and annual grant basis rather than as a systematic function of government, Federal and State.

In addition to direct educational needs, the monitoring of fiscal, transportation, physical plant and other supporting functions should be a continuous and interrelated process.

We speak gladly of adequate federal appreciation of the needs of those at the grassroots and in the ghetto, however, when the issue of effective federal service to the states and localities is confronted, the only way sound programs can be developed is on the basis of adequate information about local needs. This cannot be obtained with crash studies or occasional hearings. It is the product of continuing data-gathering, monitoring and "early warning" systems designed to highlight areas of emerging need or developing trends. Without such information the role of the remote federal agency will always be that of "putting out fires" and paying bills after the mortgage has been foreclosed.

Such a supply of information may conjure up fears of a monolithic system. This need be no more true than that the reporting of health or commerce department statutes has produced a dictatorship. Indeed the availability of sound national data and reference points may contribute a great deal to the operating of the state and local school system and to private industry which on its own is incapable of assembling such information. Such a system would be vital to a Comprehensive State Dissemination Program discussed elsewhere in this report as well as to the current operations of state and municipal programs.

Information on the supply of material produced by private and nonprofit sources would contribute to a national and regional assessment of real need and would also produce both economy and improved husbanding of scarce research resources. This function is discussed under the section dealing with improved information systems.

Another critical element of the assessment of user needs relates to the study of user characteristics. How does the user operate in the expression of his need, in the search for solutions and materials, and in the process of decision-making? These aspects of user-need will be discussed in the section on information systems.

III. Information storage and retrieval concerning non-print materials.

One of the most frequently encountered problems in the survey of needs was the very fundamental problem of how to learn about the existence of materials, how to locate them and how to obtain them. This is a problem to the educator, the primary user of non-print materials, to industry that seeks to be informed and even to those elements of government that may try to be informed about existing resources and capabilities of education.

There are several stages in the process:

1. knowledge of the availability of resources, materials or R&D leading to materials

2. understanding of how user will seek materials and development of effective information system
3. development of efficient systems for delivery of information about materials (intellectual access).

1. While most commercial non-print organizations have a catalogue or some system of listing materials, until recently sizeable segments of the government had no listing of materials available. Indeed until less than one year ago in one agency, there was no systematic procedure for reporting materials produced with their funds. Neither agency management nor those who might benefit had any means of retrieving AV materials produced with the agency's funds. Evaluation procedures did not exist where there was knowledge of the materials and dissemination was achieved in the case of a few materials through an archaic system outside of the agency. During the past year a number of new procedures have produced some improvement.

One reason why information about materials produced was ignored or worse was that there was no mechanism for storage, retrieval or dissemination. In July 1969, the National Audiovisual Center was created in the Archives Division of General Services Administration. This agency was authorized to receive, reproduce and sell materials produced by government agencies. The NAC has assumed responsibility for USOE materials. During this period the newly created Office of Information Dissemination of OE has undertaken to retrieve past and all future materials produced as products or by-products of USOE funding.

The ERIC system has directed its efforts to the collection of R&D that will lead to the production and evaluation or utilization of non-print materials. As the language and conceptual base of ERIC expands toward improved communication with "grass root" educators and producers of materials, the utilization of R&D will increase.

Thus a basis has been laid for the accumulation of available resources developed with OE support.

2. How do users search for materials?

In this question lie many of the weaknesses of the dissemination system. This study and this report have placed great emphasis on user needs and user characteristics. Not the least significant of these characteristics is what cognitive and perceptual processes and tendencies does the user bring to bear? Stated conversely it may be asked, "How can information be arranged so that it will respond most effectively to the user's way of thinking and asking?" For many years the library sciences have been unresponsive to such needs in their own search for standardization. Only recently has the possibility of "operations research for the information system" been raised.

It has been recommended that systematic research be undertaken to improve the information systems in a manner that causes them to help rather than hinder the user's search for an appropriate material. Such research could be undertaken under the new Bureau of Information Science and Educational Technology or as a part of OID or as a function of the proposed National Center for Educational Media. It is also important that, rather than arbitrary agreements among librarians and information scientists, interdisciplinary teams of psychologists, educators, engineers, information scientists and management experts collaborate to this end.

3. This report has deliberately not discussed the potential of the new technology for dissemination. However it is recommended that the increasing harvest of applications to rapid and accurate retrieval made possible by computer and the communications media be studied by a select task force with representation of hardware, software and education. The possibility of a nationwide network of information about AV and related materials stored and processed and managed by computer and delivered via television and satellite is within the capability of the art at this time. Delivery of the material via video tape recording systems is also available to us. Facsimile reproductions open up even more avenues for hard copy transmissions. The problems that remain are problems of agreement on systems objectives, systems planning and management, and above all the enormous expense of such a venture. While this study was intended to recommend only those systems that could use currently owned equipment, it is urged that no system or program be made final or rigidified in a way that would preclude adaptation to make use of the vast capabilities of the electronic communications media.

IV. There is no single "best system" for improving dissemination and as we have indicated many alternatives must be considered prior to decision. Not the least of these is the decision concerning the location of the major interventions. Will it be a centralized or decentralized system? Will major emphasis rest with the Federal government, the states or the school districts? The decisive variables certainly derive from the effectiveness of the intervention but there are also economic, political and social factors.

Careful consideration of prior experience, current need and the likelihood of implementation brought us to the conclusion that a number of interventions were necessary at each level. Many of these interventions carried through the several layers of government and provide communication between them.

A. The Federal level.

Recent recommendations of a National Institute of Education provides a hospitable climate for the suggestion that a National Center for Educational Media be established in the Institute or in some relationship to the Bureau of Educational Technology and Information Science. Such a center would provide a focus for study of the applications of the media to education. Its function might include:

1. research in new hardware and equipment
2. research into new methods of software development employing interdisciplinary groups of educators, behavioral scientists, artists and media specialists
3. study of improved methods for the integration of hardware and software, employing the fullest potential of equipment, mate-

rials, systems, organization, and the teacher. Emphasis on only one element in the system at a time has plagued education and deprived it of the full benefit of the new technologies.

4. As a part of the research and in response to the needs of education a low level of effort providing for the research, development, adaptation and production of materials might be undertaken. The purposes of such pilot operations could include:
   a. development of new types of materials or methods
   b. as a "measuring rod" to determine level of effort and cost
   c. to develop and produce high risk materials that industry does not seek to produce
   d. to develop and test guidelines and criteria and other quality control objectives
   e. to engage in types of research, development, etc. that other sectors will not perform.

The National Center for Educational Media (NCEM) should not perform its function in isolation. A close relationship and participation in the information processes described above is critical.

A close and cooperative relationship with industry would facilitate exchange of problems, ideas and solutions to the advantage of education. Especially must it be sensitive to the needs of education. Fundamental to the success of such a center is its continuing and "real time" link with field stations, regional and state centers and with the on-going problems of education.

The Center is not designed to replace or duplicate the educational Laboratories but rather to serve as a locus for the exchange of ideas and experiences concerning the educational media and perhaps a meeting ground upon which cooperative and mutually beneficial programs can be planned.

Closely linked to the NCEM is the recommendation of a series of task forces.

Task Forces:

In the development of specific requirements for the proposed Federal-State efforts to improve the dissemination of OE and/or general non-print materials, the use of several Task Forces is recommended. This method is designed to bring to bear the skills and viewpoint of representative professionals, scientists, educators, etc. in a problem-solving context. Such a mechanism properly planned and implemented can achieve a significant product supported by authority and consensus.

The criteria for the use of a Task Force include:

1. The need for a consensus of a representative group.
2. The need for authoritative opinion.
3. The need for a problem-solving process and the time and setting to accomplish the solution of the problem.

There are three important segments of professionals whose opinions will be important and whose agreement is needed prior to implementation.

1. Senior personnel in the fields of AV teaching techniques, educational research, and professional training whose consensus can offer both authority and balance concerning the proposed interventions;
2. Representatives for SEA's and LEA's, e.g.: teachers, librarians, media specialists, curriculum planners and developers, superintendents. Their role in and agreement with the Task Forces will provide not only representation for their fields of endeavor, but increased communication with and feedback from their colleagues on the various levels of the school system;
3. OE staff representing OE management, R&D, fiscal, dissemination, information and other functions involved in the specific Task Force.
4. Representatives of professional groups in education, psychology, information sciences, etc.

A number of such Task Forces will be needed to cover the multiple elements involved in improving the national AV dissemination process. These might include special Task Forces on:

1. Criteria for the evaluation of AV materials. (This may be broken down into several problem foci, i.e. technical, educational, etc.)
2. Requirements for an effective in-service or pre-service training program.
3. Requirements for a comprehensive state dissemination system. (This subject would probably best be handled by analysis into sub-units, i.e., administration, training, library and information system, fiscal affairs, etc. and then assembled to produce a full set of requirements or criteria for an effective system.)

In planning such a program it is vital that optimal size of the problem be achieved for each Task Force to assure that the problem can be solved and in a finite, pre-determined time with available resources.

The value of such a system lies in its capacity for enlisting the most skilled and representative members and employing them in a task oriented manner to meet discrete and defined problems.

B. Regional Links.

Midway between Federal and state programs are a number of regional units or agencies of great actual and potential value.

1. HEW Regional Offices have probably not been adequately utilized for the expediting of physical and psychological communication with the states. It is fully understood that in reality a state program with a grievance will go directly to Washington. However, there are a multitude of day to day communication and consultation operations that could be handled more easily by a regional officer who had fewer people to relate to. In addition the development of regional projects, programs, the availability of displays, information systems, etc. have not been fully explored. In some respects the Regional Labs serve this function. However, their resources are limited and optimal functioning is not achieved by demanding a broad service function from the labs.

The Regional Educational Laboratories are described in another section of the report. Fullest exploitation of their R&D function, their capacity for new program development and for service and communication (within limits) has probably not been achieved. Other sections including that on copyright and training have particular pertinence to the operation of the REL's.

The use of Mobile Facilities: It is suggested that careful evaluation be made of several programs using mobile vans and other conveyances. The process of bringing new techniques, materials, consultative and primarily "hands on" experience to a large number of schools without expensive redundancy. This system permits relatively brief exposure to determine the value and compatability of new approaches. Other Federal agencies are already engaged in such a program. Possible variations include sale, lease or grant of such units to states so as to concentrate their use after central exposure.

The Regional Educational Service Centers: The success of the Bureau for the Educationally Handicapped with their Regional SEIMC's as well as the need for regional centers capable of working closely with state programs on program development, training, consultation, evaluation and the other functions critical to such a program indicate that Regional ESC's would be exceedingly valuable. These regional units provide the needed forces and link for the transmission of program ideas and methods to state and local centers. Such centers would relate to or include regional material, sale, rental or loan units designed to make materials more easily accessible to the local users.

Regional NAC Operations: Without prejudice to where they may be located, the potential for regionalization of the National Audiovisual Center's sales and loan offices exists. If the NAC is mandated to handle sales, loan and lease of government materials, their representation at the point of maximum regional availability of government sponsored materials (Regional Office, Regional Service Center, etc.) would expedite the delivery of such materials to state and local units making purchase or loans.

Sensor Function extended to all Regional Facilities: As with every other unit in the proposed system, it is urged that the regional operations be sensitive to the needs of those they serve in the states and local areas. This sensitivity should be assured through training of personnel, formal and informal data collection methods and the availability of channels for the upward movement of need assessment information to decision-makers at the national level.

B. State Programs.

The state educational program and, within it, the non-print media programs remain a vital link in the system. The central role and responsibility of the state for educational suggests that effort be devoted to improve this level in the dissemination system.

1. State Educational Service Centers

Many states have already developed such centers with several branches in the larger or more affluent states. They are also part of the scheme of things contemplated by the BEH program of USOE.

It is recommended that the development of such state media centers be one aspect of any federal dissemination program.

SES Centers would have several functions:

1. upgrade curriculum, professional and public information materials
2. develop criteria for training and consultation programs in improved utilization of non-print media in education and the implementation of such programs
3. develop improved methods and systems for dissemination of non-print materials and their dissemination including local educational service centers, mobile units, etc.
4. engage in the assessment of needs for new materials and methods
5. develop new and appropriate materials for state use either in collaboration with industry, laboratories or local districts in response to observed need.

The development of effective and efficient state programs appears to be a necessary link in the effort to achieve adequate dissemination of materials to the "grass roots."

Need Assessment and Information Unit

There are several requirements of a sound dissemination system that would be satisfied by a Need Assessment and Information Unit or some agency capable of carrying out that function. It would begin modestly by meeting the most basic needs and would expand as various segments of an OE dissemination system become operational. This unit or these functions could be located in the OID and should develop subsidiary or counterpart offices in regional and state Educational Resource Centers. It should develop close liaison with the several R&D funding units and Center for Educational Statistics.

The primary functions of such an office or function might include:

I. Establishing or Evaluating and Disseminating Criteria, Guidelines, Models for Gathering, Processing and Disseminating Information about Needs for Educational Media and Materials.

II. Assessment of Needs (pertaining to non-print materials and their dissemination in education).

III. Assessment of Effectiveness of Dissemination System.

IV. Assessment of Character and Distribution of Available Materials and Resources to Meet Needs (agencies, manpower, materials).

V. Providing Assistance for Educational Need Assessment at All Levels.

VI. Evaluation and Analysis of Implications for Education of Information from Need Assessment and Assessment of Resources.

VII. Dissemination of Resulting Information to Appropriate Administrators and Other Users.

Charts follow which outline in detail suggested alternatives for performing the above functions. The sources of information, suggested mechanisms and objectives for disseminating the data will be sketched and demonstrated.

I. Establishing or Evaluating and Disseminating Criteria, Guidelines, Models for Gathering, Processing and Disseminating Information About Needs for Educational Media and Materials.

Adequate need assessment and evaluation of dissemination is lacking throughout education. The Assessment/Information Unit could establish criteria for such information gathering and for dissemination of such information for planning, etc. To achieve consensus among professional and scientific groups on criteria, one recommended method would be the establishment of a task force of senior scientists and professionals to develop and report back such criteria.

II. Assessment of Educational and Dissemination Needs and

III. Assessment of Effectiveness of Dissemination System.

A. Sources of Information

Assessment of educational and dissemination needs and effectiveness could come from a sample of users, producers and disseminators in education; it would cover all types and levels in the educational hierarchy and information would be derived from all stages of the dissemination continuum from R&D to utilization and evaluation.

Information would be gathered at federal, regional, state and local levels: from OE Bureaus, the Office of Public Affairs and major programs; from Regional Offices, Regional Laboratories and R&D Centers; from the National Audiovisual Center; from Universities, industry, professional associations, regional compacts, and state and local education systems.

B. Types of Information to be Gathered

Although the primary concern of the Need Assessment and Information Unit would be to assess user needs pertaining directly to Office of Education materials and dissemination, a secondary concern might include the needs of other producers and disseminators of educational materials. (As we have suggested earlier, these are secondary users). The overall function would be to obtain information useful in the facilitation of a flow of sound and useful materials for use in education.

1. User Needs

a. Curricular Needs, Educational Needs

This category includes the principal educational problems users face: curricular needs and changes, student characteristics, personnel and staffing patterns (types, training, numbers), and the criteria for materials required to meet these conditions.

b. Dissemination/System Needs

This category encompasses the needs of disseminators within education as well as user needs pertaining to intellectual access, physical access, planning, evaluation and feedback, training, (in some cases, production) consultation, services.

c. Overall Evaluation of Context of Use

In addition to assessing curricular and dissemination needs of users, the Office of Education should be aware of the environment in which its materials will be used: i.e. OE must be sensitive to such considerations as: economic, cultural factors, budget, facilities, equipment, political factors, etc.

d. Available Resources

Assessment and evaluation of resources currently in use, including new materials, techniques, training programs, consultation services, sources of equipment, etc.

2. Effectiveness of Dissemination System

To evaluate the effectiveness of the OE dissemination system the Office of Education must define educational objectives and user needs for educational media to determine how effectively these are being met by OE-generated materials and other materials and services. In addition to isolating problems: successes, failures, models of dissemination and utilization, and potential areas of intervention or assistance by the Office of Education should be monitored on a continuing basis.

3. Communication Within the System

The current fragmentation of the AV production and dissemination process and its consequent inefficiency suggest that USOE can serve a valuable function by facilitating communication with and among the many segments of the several systems. Sensitivity to such problems as industry's desire for information about relevant research for potential further development, lab-industry contractual problems and copyright problems connected with the production of OE-generated materials could lead to more effective communication and facilitation of the process of dissemination.

C. Mechanism for Gathering Information

A variety of complementary mechanisms could be used to gather information on needs and effectiveness, ranging from formal and informal methods and personal contact with users to evaluation forms and reports from various levels of personnel throughout the dissemination system.

1. Standard Questionnaire

A questionnaire could be sent to users, producers and disseminators soliciting suggestions, need assessment, priorities, future forecasting.

2. Informal Assessment by Consultants

   Sustained personal contact with users is invaluable as a mode of need assessment and evaluation. Consultants at the regional, state and local levels in Educational Service Centers would be an excellent source of information. Their reports would have upward mobility through regular meetings, through the directors of the Centers, etc.

3. Assessment Information from AV training programs, from a National Center for Educational Media, from the Task Force on Evaluation Standards and Criteria, from contract and loan libraries disseminating OE materials.

4. Curriculum Surveys

5. Available Achievement Data

   The variety of instruments employed by most school systems to evaluate student achievement provides a useful reservoir of data that can be used in determining curricular and other educational needs.

6. Interdisciplinary Task Forces

   Small groups of impartial researchers or "visitors" from the Need Assessment and Information Unit could interview samples of educational users, disseminators and producers at all levels in all types of institutions from Office of Education field installations to ultimate users. They might assess needs for educational media in specific curricular areas or in areas of high priority such as the education of the culturally disadvantaged, or they might concentrate on needs in a particular aspect of the dissemination system such as intellectual access or evaluation criteria.

7. Need Assessment Information from Regional Laboratories, R&D Centers, Regional Offices and USOE Bureaus through dual roles.

   Each agency within USOE could have a liaison representative acting in a dual role with the agency and with the Need Assessment and Information Unit (similar to the dual roles of Public Affairs personnel).

8. Selected Field Testing of Materials and Services in Local Schools.

Selected field testing of materials and services might be done by interdisciplinary task forces such as those mentioned above.

IV. Assessment of Character and Distribution of Available Resources to Meet Needs

A. Sources of Information

Information on materials and resources to meet needs would be gathered from any producers and disseminators of OE-funded materials. Secondarily, resource data could be tapped from other commercial, government (Federal, State or Local) and non-profit producer/disseminators.

B. Types of Information to be Gathered

1. OE-funded Materials Ready for Development, Production, Dissemination

Methods must be developed to keep track of materials produced with Office of Education funds - through labs, R&D Centers, Title III funds or other OE money.

Not only the Office of Education, but prospective producers and disseminators must be informed about materials pertinent to priority needs in education.

2. Resources of Commercial Producers & Disseminators

If the Office of Education chooses to cooperate with industry in the development, production and dissemination of its materials, it must base its decisions on informed understanding of the resources of alternative producers. The Need Assessment and Information Unit should be aware of the capacities, interests and resources of the private sector to develop, produce or disseminate OE-generated materials.

3. Supply of Non-OE Materials, Services, etc. on the Market

Although the two types of resource information above are primary considerations of the Office of Education, to further define the gaps between needs and resources the Need Assessment and Information Unit should be aware of the types of materials currently available in schools and on the market. They may also wish to keep track of the training, consultation, information, evaluation and physical dissemination resources available to educational users. With such information, the Office of Education can make the most efficient use of funds and can evaluate which roles would be most appropriate for the public and the private sectors respectively in filling the gaps.

C. Mechanisms for Gathering Information

1. Office of Education Form

   The experimental OE form sent to Labs, R&D Centers, Title III, and other generators of OE-funded materials would bring in information of new products ready to be developed further, produced and disseminated.

2. Information on OE-generated materials would also come from personal contacts with OE-agencies through the same persons and channels used to assess needs. (See above)

3. Resources of the Private Sector would be monitored through conventions, joint OE-industry displays, invitations to industry to inform OE of educational materials, etc. and through the personal liaisons set up as channels of communication about needs, contracts, etc.

V. Providing Assistance for Educational Need Assessment at All Levels.

Assistance or consultation on types of information to gather, sources of pertinent information that should be tapped for adequate planning, methods of gathering the information and methods of analyzing it for maximum effectiveness in policy-making and planning would be valuable services to many smaller school districts and to more than a few larger ones.

The Assessment/Information Unit might also act as a catalyst in providing a model for integrating the diverse assessment and information-gathering now performed through various educational agencies.

VI. Evaluation and Analysis of Implications for Education of Information from Need Assessment and Assessment of Resources.

Although the Need Assessment and Information Unit may be able to do some analysis centrally, alternatives include contracting with the private sector or with a university to evaluate the priorities and needs, the materials and other pertinent resources available through Office of Education funds. The contractor would make recommendations for the most efficient and effective application of those resources. Gaps and potentials should also be determined and issues and problem areas anticipated and defined.

VII. Dissemination of Resulting Information to Appropriate Users

The primary concern of the Need Assessment and Information Unit would be to channel appropriate information about needs and available resources and the gaps between the two to:

A. Policy-makers

B. Funders of R&D

C. Administrators of the Distribution System in OE

Valuable contextual information derived through other operations would assist policy-makers to develop required programs and plans.

After providing information for federal and state planners, the Office of Public Affairs should provide the private and non-profit sectors with information on needs in education as well as information on OE-generated materials ready for production and dissemination.

For specifics on the dissemination of information from the Need Assessment and Information Unit, refer to the following charts.

Examples of Information-Gathering by Need Assessment and Information Unit

Source of Information	Type of Information to be Gathered	Data Gathering Mechanism	Disseminated To:	Via	To be Applied to Policy Decisions
State Education Agencies	SEA needs in non-print materials and related services.	Reports from state or regional planning groups.	R&D funders Program Planners Coordinators of OE dissemination system	Need Assessment and Information Office State and Regional meetings and conferences.	Decisions on materials to be produced and disseminated. Decisions on funding programs and agencies to provide services to SEA's.
SEA's State Curriculum Planners	Data indicating climate of state pertaining to instructional materials; i.e., degree of state legislative control over local curriculum. State and Regional economic needs and characteristics.	Through State Educational Service Center. State-OE liaison in Need Assessment and Information Unit.	USOE Program Planners		Policy decisions on review of funding procedures to SEA's to match funding policies and procedures to SEA needs.
SEA's	Information on SEA personnel's vocabulary, orientation information - seeking behavior and information needs pertaining to non-print production and dissemination.		-USOE Program planners -Coordinators and policy-makers in OE dissemination system		Assessment and coordination of USOE multiple activities pertinent to dissemination of non-print materials.

Examples of Information-Gathering by Need Assessment and Information Unit (2)

Source of Information	Type of Information to be Gathered	Data Gathering Mechanism	Disseminated To:	Via	To be Applied to Policy Decisions
SEA's	Identify state agencies and leaders pertinent to dissemination.		USOE Program planners USOE coordinators of dissemination system.	Need Assessment and Information Unit State and Regional meetings and conferences	Application to program planning; improvement of communication between OE and state disseminators.
State Education Agencies	Information needs of regional, state and local agencies.	-State ESC -Liaison between OE and States -Consultants.	-USOE Program Planners -Coordinators of OE Dissemination systems	Need Assessment and Information Unit	To determine requirements for an inter-state and a state - OE information exchange.

Examples of Information-Gathering by Need Assessment and Information Unit (3)

Source of Information	Type of Information to be Gathered	Data Gathering Mechanism	Disseminated To:	Via	To be Applied to Policy Decisions
Labs and R&D Centers; Title III and other projects generating materials with OE funds.	1) Materials and techniques ready for development, production, dissemination.	Liaison between OE Central and Labs and R&D Centers.	Program planners Budget Staff R&D Funding units Evaluators of needs and resources in OE dissemination system	Need Assessment and Information Unit Liaisons in Need Assessment and Information Unit with planning, R&D funding offices.	Decisions on materials to be produced and procedures for facilitating production and dissemination of them. Coordination of R&D funding.
	2) Problems inhibiting production and dissemination of materials.	OE Form for reporting new materials generated.			
	3) Successes in R&D dissemination processes.	Lab and R&D field operations (report form).	Industry	OE-Industry Liaison (in Need Assessment and Information Unit) Auctions Presentation of materials to industry Written-pictorial presentations.	Transfer of effective dissemination techniques to OE state-local dissemination system. To encourage production and dissemination of OE-funded materials. To direct industry toward research and materials most appropriate to needs in education.
	4) Needs and problems encountered in field contacts or in collaboration with states' schools.				

Examples of Information-Gathering by Need Assessment and Information Unit (4)

Source of Information	Type of Information to be Gathered	Data Gathering Mechanism	Disseminated To:	Via	To be Applied to Policy Decisions
Industry Non-profits	1) Materials available to meet certain curriculum needs. 2) Type and amount of training, consultation, information, evaluation and physical dissemination available to users via private sector. 3) Development, production, dissemination capabilities and interests. 4) Needs and problems in production/dissemination of OE-generated materials 5) Current demographic and market information, i.e. volume of business, character, backlogs, projections, etc. (like Dodge building data; Dept. of Commerce reports; BLS reports).	Conventions Seminars Joint or Industry displays Invitations to industry to provide prospectus of capabilities, etc. OE-industry liaison. Voluntary data gathering system and data bank (i.e., AVCOM)	OE R&D Funders Planning office for OE dissemination system NCEM or NIER AV Training Program Task forces on Standards and Criteria	Need Assessment and Information Unit Publications Conferences Films Reports	1)To reveal gaps between available resources and educational needs. 2)To provide information base for decisions on awarding production/dissemination contracts. 3)To define areas of need in material development and dissemination most appropriate for OE intervention and to indicate appropriate roles for the private sector-to be encouraged by OE. 4)To facilitate the production and dissemination of OE - generated materials. 5)To determine gaps in future resources and national capacity. 6)To define areas requiring increased or different research activity.

A National Program of Comprehensive State Educational Dissemination Systems

As we have encountered them, arrangements for the dissemination of non-print educational materials vary widely among the states. In some jurisdictions there is little formal structure and relatively little is expended. In others, materials and dissemination budgets are quite high, and sophisticated systems are in operation or in prospect. Some states have initiated effective organizations, while in others a number of federal and state programs within the state operate independently and at times overlap, compete, or leave sizeable gaps in coverage.

Earlier sections in this report have detailed much of this situation. They have also presented a review of the requirements of a sound dissemination program and a number of recommendations that would satisfy those requirements. While these recommendations, discussed in the previous section, are likely to improve dissemination, they will not in and of themselves assure the systematic quality that is necessary for the efficient and economical flow of good materials to the user.

The need remains for a step that will result in:

1. elimination from state programs of gaps in program coverage, unnecessary redundancy and wasteful delays in meeting needs;
2. establishment of an efficient, systematic state and local program providing sound planning and an optimal degree of consistency state-wide;
3. resources (service centers, libraries, etc.), training programs and communications facilities adequate to meet the needs of the state;
4. maintenance of high standards of technical and instructional quality in materials and their utilization;
5. standardization of nomenclature, cataloguing systems, etc;
6. improved cooperation and communication between federal, state and local dissemination apparatus.

The proper dissemination of OE-generated non-print materials (and of a wealth of other privately and publicly generated material) cannot be left to the vagaries of the non-system of AV dissemination that exists today. It is therefore recommended that a national system of Comprehensive State Educational Dissemination Systems be established and that such a system be supported by state and local funds with matching federal contributions. Such contributions should be contingent upon the development by each state of a plan for the effective dissemination of non-print educational materials within that state, and the subsequent implementation of that plan. The plans would be responsive to a set of standards and criteria for effective programs to be developed by a task force panel of experts in educational dissemination which includes strong representation from professional education and the states. Such criteria should not be limiting to creativity and quality, but would assure that adequate dissemination is provided. Neither would they promote conformity or homogeneity, except as required to assure communications and compatibility of equipment and materials.

Such a plan would cover the following aspects of the state media dissemination system.

1. Need assessment
2. Policy development: planning, management and coordination
3. Intellectual dissemination (information storage and retrieval)
4. Physical dissemination methods
5. Consultation and training
6. Research and development
7. Evaluation
8. Inter-agency communications and relations
9. Public relations
10. Personnel procedures
11. Finance and budgeting

Each plan should be based on a sound and thorough assessment of current and future needs of education, its current and latent resources, and its characteristics. The objectives of the state program should be detailed, as well as the criteria for their achievement and the method or alternative methods to be employed in implementing the program.

The USOE, interpreting a mandate from Congress, might establish general or illustrative criteria for such programs. It should provide research for more ambitious, creative, or efficient programs.

Some illustrative criteria or principles might include:

1. Avoidance of overlap of facilities within a state to eliminate duplicative resources serving the same populations.
2. Elimination of gaps in kinds of services provided or extent of schools covered.
3. Cooperation with university media centers, where these exist, for the exchange of materials, skills in operating centers, etc.
4. Resource personnel staffing centers who will serve as active agents in assisting teachers and curriculum planners in AV materials decision-making and utilization.
5. Training standards for resource personnel
6. Cooperation with other state in-service training programs, making center facilities available and also taking active part in actual in-service training work.
7. Cooperation with schools of education, both making center facilities available and cooperating in actual pre-service training work.
8. Media centers and libraries required to maintain combined print - non-print catalogs.
9. AV materials available to all school districts throughout the state.

10. Responsibility for effective record keeping, evaluation of materials and programs.
11. Compatibility of information storage and retrieval systems.
12. Provision for the effective flow of information and materials.
13. Provision for reporting on new materials and programs produced by states and localities.

Such a national program would have the advantage of developing nation-wide standards of quality and good communication while permitting state and local individuality, creativity and self determination to operate. Primary federal emphasis would be on the requirement that the need assessment operation be a valid one, and that the program satisfy the demand made evident by the need assessment. Maximization of local self determination would have the advantage of supporting creative innovation rather than conformity, with the subsequent benefit to other appropriate sites.

The Comprehensive State Educational Dissemination System would be designed to provide optimal cooperation between state and federal programs, public and private resources, and educational and non-educational elements of the system. Cooperation between states or between school districts within a state would be fostered where desired, and where it would serve the purposes of education and economy.

A number of national programs of this nature have been developed in other fields, e.g., the Comprehensive Community Mental Health Act. These may provide experience and example.

Other advantages of such a system include:

1. the elimination of wasteful duplicative "systems";
2. establishment of structural communication points between federal, state and local programs, with procedures and ground rules for communication and improved working relationships;
3. improved availability of information to facilitate decision-making, and materials and consultation to improve utilization.

The USOE dissemination system, then, would serve and interface with a series of state-wide dissemination systems. USOE would work with each SEA on the state's plan for a state-wide dissemination system responsive to the needs, requirements and characteristics of that state. USOE would be expected to promote implementation of state plans through: 1) funding; 2) direct help in the form of consultation; 3) indirect support in the form of information, and research and development required to ensure the supply of appropriate AV materials. Further, the 4) National Center for Educational Media and the Regional Centers would be established to serve as models and "measuring rods" for State and Local Education Service Centers and for the specific functions of those centers.

The expected rate of success and acceptance of such a plan among state education agencies can be considered high. State education agencies would maintain their political autonomy and professional integrity with the control of the state dissemination activities remaining in the SEA. *The criteria and requirements for a dissemination network for the individual SEA would be established by the personnel working within that state who have access to the fullest understanding of the professional needs and requirements of the users of that state's dissemination system*. Thus, the *role of the USOE would remain one of being supportive*, *adjunctive and catalytic*, consistent with its objectives of improving education while *maintaining local autonomy*.

This recommendation for Comprehensive State Educational Dissemination Systems could not, and has not, been discussed directly with state or federal personnel during the course of the study. However, there was strong support for the concept of a broad and dramatic step designed to convert today's inefficient AV dissemination process into a more effective and systematic one. The concept should be studied more fully in consultation with SEA's, and its potentials assessed.

A National System for AV Materials Information Storage and Retrieval

One of the primary reasons for the Comprehensive State Educational Dissemination System described in the previous section would be to provide the vehicle for a National Information Storage and Retrieval System for non-print educational materials. Such a system would provide not only standardization, but flexibility.

It would provide uniform nomenclature, cataloguing, and indexing standards which have been specifically designed to satisfy empirically determined user needs.

Such an information system would also be capable of functioning via both available communications vehicles and those yet to be developed. The current state of the art and economics, for instance, may require reliance on print catalogs and the use of teletype facilities and the mails. Future systems, which are already technologically feasible, could call for various kinds of dial access with CRT images of uniform catalogs available in all parts of the country. The emergence of satellite communications capability suggests another possible vehicle for a National System.

Within a given state, elaboration, improvement or modification of the information system would be possible as long as the basic standards of cataloguing and nomenclature are maintained. For example, additional materials could be put in describing content areas of interest to the particular state concerning its history, geography, economics, etc. No state or region should be prevented from developing and including such material. Its availability in a National Information Storage and Retrieval System would enrich that system and establish the basis for efficiency and cooperation among the states and regions.

The chart that follows suggests the way in which many of the recommended interventions fit into the flow of the dissemination process.

In each case the Objective is that of the "actor" who performs the function described, e.g., research, adaptation, etc.

The Materials Needed are those raw materials that must be modified or manipulated to achieve the objective sought.

Required Source of Information indicates from whom the "actor" acquires information about available materials.

Source of Materials and Required Tools includes resources or tools needed to complete the task and where they derive from.

The Skills Required is probably self-defining.

It should also be noted that at each level, knowledge of or information about the needs of the eventual user is a fundamental requirement.

Requirements and Recommendations for the Improvement of the Dissemination of Non-Print Educational Materials

Objective	Materials Needed	Required Source of Information	Source of Materials and Required Tools	Required Skills
Research	Funding Policy approving research Scientific and Professional Interest	Information systems re: Government funding for research Other support programs	Budget Facilities Personnel	Professional & scientific training in research & education
Development (Public or Private sector)	Research Materials	ERIC Non-print media information system, i.e., Title III summaries, etc. Regional display centers Journals	Budget Facilities Personnel Materials obtained via ERIC, professional journals, etc. Information exchange	Professional & scientific training Need assessment Evaluation of products and programs
Adaptation (Public or Private sector)	Developed Materials	ERIC Non-print media information system Regional display centers National Center for Educational Media	Budget Facilities Personnel Copyright Policy NCEM Information exchange obtained via ERIC, journals, etc.	Professional & scientific training Need Assessment Evaluation of products and programs

Requirements and Recommendations for the Improvement of the Dissemination of Non-Print Educational Materials (2)

Objective	Materials Needed	Required Source of Information	Source of Materials and Required Tools	Required Skills
Collection of Materials	Developed and adapted materials that are available for dissemination	Information from R&D and adapters Research Analysis via Allocation Staff	Final reports available from RAAS, etc. Central receiving unit Inventory from completed by producer or project officer	Persistence
Intellectual Dissemination	Descriptive information about available non-print materials	Intra-USOE information system (Collecting agency to unite with dissemination responsibility)	Report of USOE-sponsored materials(via inventory form and other sources) Computers and other information science resources	Information science skills Materials evaluation techniques Need evaluation techniques
Decision-making (Intermediate level: Curriculum developers, AV Specialists, etc.)	Selected information about available materials Improved catalogues New intellectual dissemination techniques: ·Resource personnel at media centers, etc.	Information network NCEM RESC SESC LESC NAC catalog Improved cataloging system	Budget Rapid communication systems: -Dial Access -ITV -Mobile Vans Loans to libraries Other support services: -Educational media consultants -In-service training	To evaluate ultimate user's needs To establish behavioral objectives To use multiple information systems To evaluate materials To integrate materials with curriculum plans

Requirements and Recommendations for the Improvement of the Dissemination of Non-Print Educational Materials (3)

Objective	Materials Needed	Required Source of Information	Source of Materials and Required Tools	Required Skills
Decision-making (Final: Teacher, Student, etc.)	Selected information about recommended materials Improved catalogues New intellectual dissemination techniques: -Resource personnel at media centers, etc.	Improved cataloging system Improved information system Consultation Contact with colleagues ESC's } local SEIMC's } local NAC catalog Mobile vans and exhibits Loans to libraries	Curriculum guides, supervisors ESC's } local IMC's } local Educational media consultants (Setting for increased "hands-on" experience with non-print materials) Improved communications equipment and programs	Training in: -evaluation of materials -integration of materials with behavioral objectives and overall planning -assessment of student needs -ability to use information systems -evaluation of use
Physical Dissemination	Supply of materials Requests from users	Effective retrieval system Inventory systems to indicate present location of materials	Local and Regional Supply Centers Loan and rental libraries Improved delivery service Organized delivery systems Dial access Mobile units Audio and video transmission and recording capability	Systems planning Storage, maintenance of materials Retrieval skills Delivery skills

Requirements and Recommendations for the Improvement of the Dissemination of Non-Print Educational Materials (4)

Objective	Materials Needed	Required Source of Information	Source of Materials and Required Tools	Required Skills
Utilization	Guides to effective utilization Adequate information about materials "Hands-on" availability of materials	Pre- and in-service education for utilization of materials Consultation, local	Pre- and in-service programs for utilization of non-print materials Local ESC's, IMC's Appropriate equipment	Utilization Skills Evaluation Skills

Epilogue

This study was devoted to the improvement of the dissemination of non-print educational materials resulting from USOE support.

In developing a number of recommendations we have studied

a. the nature of the dissemination "system" and the actors and processes in the system;
b. the activities of the several public and private organizations engaged in or contributing to dissemination;
c. the several users of non-print educational materials.

From the data collected and assembled we have distilled

1. the requirements of a sound system;
2. the needs of the several participants in the system.

We have assessed the resources and potential of the "system" and its participants.

We have recommended a number of interventions or activities designed to improve the dissemination and utilization of non-print educational materials.

We have discussed the potential structure, content and process of an improved system.

It must be stressed that while these recommendations are frequently interdependent and their results incremental, it is not essential to success that they all be implemented or that they all be implemented simultaneously. Limitation of money, human and other resources, and of time probably preclude such a possibility. However, it is possible to produce from these elements a programmed pattern of interventions that will result in marked improvement in the availability of materials to the user, and in their effective uiliization.

The tremendous potential of the non-print educational media for the improvement of the quality of education in the United States and other nations recommends the careful consideration of these suggestions.

APPENDICES

List of Organizations Contacted

I. Bureaus, Divisions and Offices of the USOE Consulted in the Course of the Project:

1. Office of Public Information, Health, Education and Welfare

2. Office of Management Information, USOE

3. Office of Public Information, USOE

4. Office of Information Dissemination

5. The Copyright Program

6. Bureau of Adult Vocational and Library Services

7. Division of Vocational and Adult Library

8. Division of Library Services and Educational Facilities

Bureau of the Education of the Handicapped

9. Division of Educational Services

10. Division of Research

11. Bureau of Educational Personnel Development

12. Bureau of Elementary and Secondary Education

13. Division of Program Planning

14. Program Analysis Branch

Bureau of Research

15. Division of Educational Laboratories

16. Research and Development Centers Branch

17. Instructional Materials and Practices Branch

18. Division of Elementary and Secondary Education

19. Division of Higher Education Research

20. Instructional Materials and Practice

21. Research Training Branch

II. USOE Affiliates

R&D Centers

1. Pittsburgh
2. Baltimore

Regional Offices:

1. New York City
2. Boston, Mass.
3. Atlanta, Georgia

Regional Labs

1. Northwest
2. Far West
3. SWERL
4. EDC - Boston
5. Research for Better Schools - Philadelphia

Special Education Instructional Materials Centers

1. Mid-Atlantic Regional SEIMC
2. Albany, N.Y.

III. State Education Agencies:

The following organizations were selected for in depth interviews and/or case study. Several more in each category were contacted via phone or mail.

1. Arizona
2. Delaware
3. Maine
4. Maryland
5. Massachusetts
6. Minnesota
7. Montana
8. Nevada
9. New Jersey
10. New York
11. Oklahoma
12. Pennsylvania
13. South Dakota
14. Virginia
15. West Virginia

IV. Local Education Agencies:

A. School Districts

1. Allegheny County, Pennsylvania
2. Amarillo, Texas
3. Arlington, Virginia
4. Baton Rouge, Louisiana
5. Falls Church, Virginia
6. Hagerstown, Maryland
7. Harrisburg, Pennsylvania
8. Howard County, Maryland
9. Los Angeles City, California
10. Los Angeles County, California

11. Montgomery County, Maryland
12. New Orleans, Louisiana
13. New Rochelle, New York
14. Niskayuna, New York
15. Norfolk, Virginia
16. Philadelphia, Pennsylvania
18. St. Louis City, Missouri
19. St. Louis County, Missouri
20. Virginia Beach, Virginia
21. Washington, D.C.
22. Wellesley, Massachusetts

B. Individual Schools

1. Canyon Elementary, Amarillo, Texas
2. Clinton Elementary, St. Louis, Missouri
3. Coatesville, Pennsylvania
4. Ferguson Florissant, St. Louis, Missouri
5. Garfield School, St. Louis, Missouri
6. Harrisburg Elementary, Harrisburg, Pennsylvania
7. New Orleans Junior High School, New Orleans, Louisiana

V. Other Government Agencies:

1. NASA
2. AEC
3. Department of Agriculture
4. Bureau of Indian Affairs
5. Instructional Resource Center, BIA
Brigham City, Utah
6. National Audio Visual Center
7. Office of Economic Opportunity
8. Department of Defense: Overseas Schools
9. National Medical Audio Visual Center
10. National Medical Library (NIH)

VI. Industries:

1. American Education Center
2. Ampex
3. Appleton Century Croft
4. Career Previews Inc.
5. Coronet Films
6. EBF
7. General Learning
8. IBM
9. Imperial Films
10. Listfax
11. McGraw-Hill
12. NAVA
13. Raytheon

14. RCA
15. Responsive Environment Corporation
16. Scott Foresman
17. Society for Visual Education
18. Sol Herner Associates
19. Systems Development Corporation

VII. Universities:

State:

1. University of Delaware
2. University of Maryland
3. State University of New York
4. Kent State, Ohio
5. University of Pittsburgh
6. University of Illinois
7. University of Nebraska

Private:

1. Syracuse University
2. Stanford University
3. The George Washington University
4. Catholic University of America
5. New York Institute of Technology

SUMMARY OF POPULATION SAMPLED

Interview time per interviewee: 1/2 hour to five hours: Average time: one hour
Asterisk indicates phone contacts. Average phone interview: thirty minutes

TYPE OF ORGANIZATION	TOTAL AGENCIES OR GROUPS CONTACTED	PERSONNEL	TOTAL STAFF INTERVIEWED
	Some contacted several times		Some interviewed several times
	223		328
USOE: Bureaus-Divisions	21	Personnel	24
USOE Affiliates	12	Administrators (Director, Ass't. Director, Past Director	10
		Support Staff (Grants & Contracts Officer, Res. Director, Materials Designer, Curriculum Developer, Public Inform.)	12
State Education Agencies	15	Administrators (Superintendents, Ass't. Superintendents)	4
		Media Personnel (AV, Ed. Communications, Ed. Technology)	9
		Curriculum and Library Management (Bureau of Instruction, Center for Innovation and Planning)	7
		Federal Programs	3
	2*		2*

TYPE OF ORGANIZATION	TOTAL AGENCIES OR GROUPS CONTACTED	PERSONNEL	TOTAL STAFF INTERVIEWED
Local Education Agencies		Administrators (Superintendent, Assistant Superintendent)	8
a. Public School Districts	23		
b. Local School within Districts	7	Media Personnel (AV Directors, Coordinators, Library Media Specialists, ITV)	26
		Supervisory Staff (Principals, Elem. & Second. Supervisors, Fed. Program Directors)	15
		Development Staff (Curriculum Supervisors, Spec. Ed. Specialists)	18
		Resource Teachers & Classroom Teachers	12
	3*		3*
Other Government Agencies	10	Administrators (Film Ctr Directors, Ed. Media Div. Director)	11
		Support Staff (Catalog, Sales, Prod.)	5
	18*		18*
Industry	19	Administrators (Pres., Vice-Pres., Board of Directors)	14
		Educational Division	6
		Marketing, Advertising, Research	3
	41*		41*
Universities		Administrators (Dean, Pres., Vice-Pres., Chancellor)	5
a. Private	5		
b. State	7	Department Chairmen (Elem., Second, Early Childhood)	8

TYPE OF ORGANIZATION	TOTAL AGENCIES OR GROUPS CONTACTED	PERSONNEL	TOTAL STAFF INTERVIEWED
Universities (con't.)		Media Development Staff (Ed. Comm., Ed. Tech., Lib. Science, Computer, Curriculum)	17
		ERIC	5
	8*		8*
Non-Profit - Professional Associations	8	Administrators (Directors, Chairmen)	3
		Communications, Publications, Copyright	6
	24*		24*

DATA BANK CODE SYSTEM

ORGANIZATIONAL CODE

D-SS	School Systems
D-OEI	Other Educational Institutions
D-RL	Regional Labs
D-RDC	R&D Centers
D-SDE	State Departments of Education
D-COE	Colleges of Education
D-UC	University Centers
D-ISTP	In-Service Training Programs
D-IND	Industry
D-NP	Non-profits

SUBJECT-MATTER CODE

SC-MA	Market Analysis
SC-RD	Research & Development
SC-RDF	R&D Funding
SC-PD	Physical Dissemination
SC-ID	Intellectual Dissemination
SC-PF	Political Factors
SC-EB	Economics - Budgeting
SC-COI	Collection & Identification
SC-TT	Teacher Training (Pre & In)
SC-CAIN	Cataloging and Indexing
SC-CP	Copyright and Patent
SC-EF	Evaluation & Feedback
SC-PSY	Psychology of Non-Print Materials
SC-POL	Policy
SC-UN	Unclassified - Miscellaneous

INTERFACES

OE-I	Office of Ed. - Industry
OE-SE	Office of Ed. - State Departments of Education
OE-PA	Office of Education - Professional Association
OE-SS	Office of Education - School Systems
OERL-I	OE Regional Labs - Industry
OERL-SE	OE Regional Labs - State Departments of Education
OERL-PA	OE Regional Labs - Professional Association
OERL-SS	OE Regional Labs - School Systems
OERD-I	OE R&D Centers - Industry
OERD-SE	OE R&D Centers - State Departments of Education
OERD-PA	OE R&D Centers - Professional Associations
OERD-SS	OE R&D Centers - School Systems
OERO-I	OE Regional Office - Industry
OERO-SE	OE Regional Office - State Departments of Education
OERO-PA	OE Regional Office - Professional Associations
OERO-SS	OE Regional Office - School Systems
SED-SS	State Departments of Education - School Systems

SED-PA	State Departments of Education - Professional Associations
SED-I	State Departments of Education - Industry
I-PA	Industry - Professional Associations
I-SS	Industry - School Systems
PA-SS	Professional Association - School Systems
OGA-IN	Other Government Agencies - Unspecified (i.e. use for Industry, School System, State Departments of Education, etc.)
UN-IN	Universities - Unspecified (same as above, use for all possibilities)
OT-OT	Interface unknown on either side, i.e., School System - Parents, School System - Unions

DRAFT

FORM FOR REPORTING INFORMATION ABOUT NONPRINT EDUCATIONAL MATERIALS PRODUCED OR SUPPORTED BY THE OFFICE OF EDUCATION

The purpose of this form is to secure information about OE-produced or -supported nonprint materials. The following are included in the definition of nonprint educational materials: films, filmstrips, slides, audiotapes, videotapes, disc recordings, overhead-type transparencies, manipulanda, and picture sets. For multimedia sets or kits, use a separate form for each type of material included in the set, giving the name of the entire set or series of which the item is a part.

Routing Forms

Project Director--Send three copies of the completed form to the person on the staff of the Office of Education who is monitoring the project and to whom other project reports are sent.

OE Project Monitor--Send two copies of each form to the OE Nonprint Information Officer, Office of Information Dissemination.

Additional Forms

Additional copies of this form may be obtained from the Nonprint Information Officer, Office of Information Dissemination, Office of Education, Washington, D.C. 20202.

I. IDENTIFICATION

1. Title____

2. Title of series or kit, if applicable________________________

3. Year________ 4. Date released__________ 5. Initial version__________
Revision/update__________

6. Sponsoring unit in USOE______________________________

7. Project name____________________________________

8. USOE contract/grant number____________________________

9. Contractor or grantee________________________________

Address_______________________________________

Project Director ____________________ Phone number__________

10. Producer if other than contractor or grantee____________________

II. EDUCATIONAL AND CONTENT CHARACTERISTICS

1. Purpose(s)______________________________________

Primary_______________________________________

Secondary______________________________________

2. Audience(s)______________________________________

3. Subject categories__________________________________

4. Brief content description______________________________

____

____

____

____

(over)

Office of Information Dissemination/OFFICE OF EDUCATION

5. Educational goals or skill level development intended

III. TECHNICAL CHARACTERISTICS

1. Type of material (film, filmstrip, videotape, etc.)
2. Length in running time and/or frames or slides
3. Size, as commonly stated
4. Form for use, such as reels, cassettes, cartridges, etc.
5. Other characteristics, such as running speed, optical or magnetic sound track etc.
6. Equipment required for use, e.g., 16 mm. magnetic sound projector, 1-in. "XXX" brand videotape player, etc.
7. Any other special considerations relating to nature or use of materials

IV. DISTRIBUTION INFORMATION

1. Number of duplicate prints or sets authorized by contract Number on hand
2. Current location of masters required for duplication of materials
3. Is this original production form of materials? If not, describe form and give location of original
4. Duplicated material now available from

   Available for:
   Sale Price
   Free loan Duration of loan
   Rental Price
   Lease against purchase Price
5. If material described is part of a multimedia kit, can items be purchased separately?

(TO BE FILLED IN BY USOE PROJECT MONITOR)

1. Do you (or other qualified persons) consider that the materials described satisfy the purpose(s), audience(s), subject categories, and content description given above? Explain.
2. Do you feel they have other utility? If so, what?
3. Technical quality? High Usable Inadequate
4. Educational quality? High Usable Inadequate
5. List key word descriptors selected from *ERIC Thesaurus* to identify this material
6. List any additional key word descriptors you would also use to describe the material
7. OE Project Monitor or Supervisor

   OE Unit

   If form is completed by someone other than Project Monitor, give name and unit

Interview Schedule:

USOE - Managerial Level

Suggested Areas & Sequence for Discussion

This schedule is designed to be used primarily for managerial level or staff personnel, some questions included are more pertinent to line personnel. Few O.E. people are in exactly analogous situations. Each interview will be different in content if not in form after the relationship of the interviewee to the dissemination system is determined.

I. Overview of Dissemination process as engaged in by unit; or other relationships to dissemination process: to establish:

  A. Relationship between products and services of unit or products and overall goal; e.g., what role does AV material play in accomplishing mission for agency.
  B. Interviewee or agencies' familiarity with or orientation to concept of dissemination.
  C. Relationships to dissemination process if established as total OE function.
  D. Major problem areas.

II. Orientation to Products: Present System

  A. Purposes of material being produced
    1. instructional
    2. public information
    3. professional training and development
    4. research results or description of research procedures
  B. What is audience group, and/or who should be interested in products.
  C. Indication of volume - present and future
  D. Types of materials and media

III. Production

  A. System for monitoring materials being produced; i.e., research and development phase.
  B. Problems re: production
    1. funding procedures and policies
    2. copyright policy
  C. Discussion of possible solutions or alternative policies

IV. Identification - Collection - Distribution

  A. System for identifying materials in respective unit available for distribution (this identification or system may occur at several levels - e.g., during grant negotiation, past production, etc.)
  B. System for moving materials through division - collecting and storing.

IV. (con't.)

- C. System for disseminating materials to target audience (s), including training of teachers as means of dissemination - (Describe present channels, potential, and desired ones.)

V. Evaluation Procedures

- A. Methods for responding to and/or estimating needs of educators; ways which other undertake to express their needs to you - education industry, professional associations.
- B. System to select those materials to be made available for distribution; system for removal of obsolete items from dissemination system; criteria for obsolescence.
- C. What policy exists, or how is policy determined relating inventory:
    1. to what is available
    2. what is needed
    3. what is funded
    4. what management techniques exist to make decisions - re: allocation of budget, priorities, needs, political implications, kinds of materials to be produced.

VI. Policy Issues

Note: Question A. should be addressed to line agency people, e.g. Bureau of Elementary and Secondary Education or Bureau of Handicapped.

- A. Purpose or role of audiovisual materials in the classroom - What is practical; what "should" be.
- B. USOE's role in upgrading use of audiovisual or educational technology. Should OE be an active or passive disseminator? If OE elects to establish active system how does its role or image and/or responsibility relate to public education currently?
- C. Possibility of converting materials produced by other government agencies to educationally relevant materials. How realistic in terms of materials available; mechanics needed. Why doesn't industry currently avail itself of free footage, etc.
- D. View of role of National Audiovisual Center in scheme of things. Relationships with State Education Department, Professional Association, Universities, Regional Labs, Industry (e.g., competition with, etc.)
- E. Suggestions for OE dissemination system. What's wrong with present system or lack of system; how could it be changed to better suit your needs? What are internal implications for OE, if any, administrative, budgetary.

Interview Schedule:
USOE AFFILIATES: REGIONAL LABS, R&D CENTERS, SEIMCS, REGIONAL OFFICES

I. OVERVIEW OF DISSEMINATION AS ENGAGED IN, AND RELATED TO BY UNIT

- A. RELATIONSHIP between PRODUCTS and SERVICES of unit.
- B. Unit's orientation to CONCEPT of DISSEMINATION
- C. PROBLEM AREAS

II. ORIENTATION TO PRODUCTS:

- A. PURPOSE of materials being produced (instructional, public information, research)
- B. VOLUME
- C. TYPES AND KINDS
- D. AUDIENCE (Who is, who should be)

III. PRODUCTION:

- A. SYSTEM for MONITORING and EVALUATING materials being produced
- B. Problems (production)
  - 1. Funding
  - 2. Copyright policy and regulations
  - 3. Other RESTRICTIONS
- C. Discussion of possible SOLUTIONS or alternative POLICIES.

IV. IDENTIFICATION - COLLECTION - DISTRIBUTION:

- A. System for IDENTIFYING mats, available for DISTRIBUTION
- B. System for MOVING mats, COLLECTING-STORING.
- C. System for DISSEMINATING to TARGET: What is PREFERABLE?

V. NEED ASSESSMENT:

- A. Methods for RESPONDING to or ESTIMATING needs of educators.
  - 1. Who expresses needs?
  - 2. How?
- B. System to SELECT mats for distribution;
  TO REMOVE FROM distribution;
- C. How is the above related to CATALOG SYSTEM?
  PROBLEMS?
- D. What POLICY exists, or how FORMULATED relating inventory to:
  - 1. What is AVAILABLE?
  - 2. NEEDED?
  - 3. FUNDED?
  - 4. What management techniques exist to make DECISIONS re: BUDGET ALLOCATIONS, PRIORITIES, NEEDS, POLITICAL implications, kinds of materials?

VI. INTERFACE RELATIONSHIPS:

A. How does the nature of the relationship of the following with unit determine policy, procedure:
    1. SEA
    2. PUBLIC SCHOOLS
    3. PROFESSIONAL ASSOCIATIONS
    4. UNIVERSITIES
    5. Other OE installations

VII. POLICY CONSIDERATIONS:

A. Does unit feel a need for an OE DISSEMINATION SYSTEM
    HOW RELATED TO OWN SYSTEM?
    (supplement, replace)

B. What KIND OF SYSTEM would best meet their NEEDS?

C. Would it be consistent with the goals of their unit to be a part of a total OE dissemination system?

D. What function would be best for this unit?

E. What are TRENDS IN NON-PRINT MATERIALS AND DISSEMINATION SYSTEMS?
    1. Sophistication of utilization
    2. Materials demand
    3. Development sequence in use
    4. Changes in manner media is used in classroom by teacher

F. FUTURE PLANS BASED ON PERCEPTION OF NEEDS AND TRENDS?

Interview Schedule:

STATE EDUCATION AGENCY

I. OVERVIEW:

A. Developmental History of AV Department

B. Relationship of dissemination of non-print materials to mission and/or goals of SEA.

C. Role of non-print materials in education process.

D. What has been the impact of federal funding and/or other forces on role of non-print mats.?

II. ACQUISITION AND DISSEMINATION:

(INDUSTRY, USOE, PROF. ASSOC., UNIVERSITIES, OTHER GOVERNMENT AGENCIES, REGIONAL LABORATORIES, R&D CENTERS, SEIMC)

A. What SOURCES of non-print materials are AVAILABLE to you? Quality of materials and relationships.

B. How do these sources SATISFY your needs or NOT?

C. How could each improve his service to you?

D. What are primary types of CONTACTS you have with audiences to whom you disseminate materials? Describe system, DEVELOPMENT, RATIONALE, RELATIVE EFFECTIVENESS.

E. What system do you have for determining whether or not you are meeting your own needs or needs of those you are serving?

F. What PROBLEMS, if any, do you have in getting materials to users?

G. What is the rationale for production of materials by the SEA?
  Problems in production or reproduction.
  COPYRIGHT?

H. Suggestions for changes to ameliorate problems?

III. EVALUATION:

A. What SYSTEM do you have for evaluating materials to be entered into system for dissemination? Rationale for selection.

B. What outside agencies do you consider qualified to perform this function?

IV. REQUIREMENTS FOR IDEAL SYSTEM:

A. What is wrong with the present system or lack of system of dissemination of non-print materials and how could it be changed to better suit your needs?

B. What are the implications of such an improved system for:

1. The dissemination of information about mats?
2. The dissemination of materials themselves?

    3. The training of teachers, either pre-service or in-service?
    4. Economic and political constraints?

C. What do you see as being the relationship of the Office of Education to the SEA's in a more effective dissemination network?
    What relationships presently exist between OE and SEA's?

D. What are relationships between SEA's and school systems which might contribute to an improved dissemination system?

E. What are the relationships of SEA's and the other educational agencies: professional associations, industry, regional laboratories, R&D centers, universities, which might contribute to a more effective dissemination system?

F. What could be the complementary roles of the USOE and the SEA's in bringing about change in the present dissemination system? How?

G. What trends currently shaping up in education might have an effect on these roles as you have spelled them out?

Interview Schedule:

CATALOGUING AND INDEXING

I. OVERVIEW:

A. DEVELOPMENTAL History of catalog system
B. How and where does catalogue fit into the dissemination process. Its FUNCTION. Is it related in some overall way to details of catalog?

II. FORMAT:

A. How is subject classification list determined?
B. By whom, e.g. what personnel or department, RATIONALE?
C. Is this classification schema ever updated or revised?
  WHY DOES this NEED exist? How do they know?
  How often?
D. Are there any further breakdowns? Finer categories?
  BASIS
E. Of the various categories of materials how are they related to either User's requests or materials themselves?

III. ANNOTATION:

A. What is the source of the annotation?
  STAFF COMPOSED? COPIED FROM OTHER?
B. If done in-house, what is the basis?
  How is uniformity controlled?
C. Are graphics or pictures, description other than verbal used? Why?

IV. PROCESSING:

A. How often is catalog published?
B. Is a record kept of requests derived from catalog but not filled? What happens to these requests?

V. USER'S AND FEEDBACK:

A. Is there any system to determine user's satisfaction with catalogue system?
B. If problems are detected, how are they detected?
  What are the general problem areas?
C. What are alternative methods of disseminating which might be used in place of catalogue?
D. Any other means of dispersing information used with catalogue? Relative importance of each?
E. What are the goals of installation in using catalogue?
  Passive or active promoter?

VI. CATALOGUING POLICY:

A. What standards are followed? (Anglo Amer. CAVI)
B. Any policy towards setting of standards?
    Are standards needed? Who should devise?
C. How is catalog made available to user?
    Card File? Catalogue? Where, how accessible?
D. If automated cataloguing system, give details, RATIONALE.

VII. REQUIREMENTS FOR AN IDEAL SYSTEM:

A. What would be the ideal way to go about designing a catalogue system?
    General use vs. specific situation
B. What is the essential basis for cataloguing, does user need to be considered: If so what are the most effective means of contact?
C. What is the ideal function of the catalog?
D. What are the future trends in cataloging?
    What will be the impact of technology?

5

Interview Schedule: SCHOOL SYSTEM

AV COORDINATOR/LIBRARIAN

I. OVERVIEW:

A. What is your role in the classroom teachers' obtaining and utilizing materials? Purchasing Decisions?

B. What is the role of non-print materials in the classroom at your school? What is ideal?

II. ACQUISITION:

A. What SOURCES of materials are available to you and used most frequently, least, WHY?

B. What are the RELATIONSHIPS between SCHOOL PERSONNEL and these SOURCES? QUALITY?

C. How do these SOURCES SATISFY your NEEDS? Or not?

D. What could they do to BETTER meet your NEEDS?

(INDUSTRY, SDE, OE, PROFESSIONALS ASSOCIATIONS, UNIVERSITIES, OTHER GOVERNMENT AGENCIES, REGIONAL LABORATORIES, R&D CENTERS)

III. DISSEMINATION: (CATALOGING, IN-SERVICE TRAINING, OTHER)

A. What are the PRIMARY SOURCES of CONTACT you and/or the IMC have with your teachers to INFORM them about materials available or to ENCOURAGE THEM TO USE MATERIALS?
DESCRIBE EACH SYSTEM, ITS DEVELOPMENT, RATIONALE, PROBLEMS AND RELATIVE EFFECTIVENESS.

B. How would you like to CHANGE each TO BETTER MEET TEACHER'S NEEDS?

C. What PROBLEMS, if any, do you have in getting MATERIALS to the TEACHERS?

IV. EVALUATION:

A. What SYSTEM do you have for evaluating the materials to be entered into your system for dissemination?
PROCESS? PROBLEMS? SUGGESTED IMPROVEMENTS?

B. What OUTSIDE AGENCIES do you look to for evaluation of materials?
Who would you like to PERFORM THIS FUNCTION for schools?

V. REQUIREMENTS FOR AN IDEAL SYSTEM:

A. What SERVICES would you like from OE to help you IMPROVE DISSEMINATION AND USE OF AV MATERIALS?
What are the IMPLICATIONS?

B. Would you speculate as to why or why not NAC will serve your NEEDS?

C. If you could CHANGE your school, or school system in some way without RESTRAINTS, what single, most important change would you like to bring about? Why? (Regionality, administrative, materials, training)

Interview Schedule:

Audiovisual Specialist School System

I. Overview

- A. Can you give us an orientation to your school in terms of the personnel in your system who are most actively involved with AV materials - either in selection, evaluation or purchase decisions, or use of materials?
- B. What in your opinion is the role of non-print materials in the classroom?

II. Acquisition and/or Collection of Materials

(Industry, SDE, OE, Professional Associations, Universities, Other Government Agencies, Regional Labs, R&D Centers, SEIMC)

- A. What sources of materials are available to you and used most frequently, least, why?
- B. What are the relationships between school personnel and these sources? Quality?
- C. How do these sources satisfy your needs? Not?
- D. What could they do to better meet your needs?
- E. Which of all sources open to you do your teachers rely on?

III. Dissemination: (Catalogues, In-Service Training, Other)

- A. What are teachers main requirements for information about materials?
- B. What are the primary sources of contact you have with your teachers to inform them of materials available or to encourage them to use materials?
  - Describe each system Its development, rationale, relative effectiveness
- B. How would you like to change each to better meet teacher's needs?
- C. What problems if any, do you have in getting materials to the teacher?

IV. Production

- A. Do you produce any materials here at the IMC?
  - How started and why? Problems?
- B. Do your teachers produce materials?
  - System to handle and reproduce?
- C. Have any problems emerged in the production or reproduction of materials due to copyright regulation or policy? Suggestions?

V. Evaluation

- A. What system do you have for evaluating the materials to be entered into your system for dissemination?
  - Process? Problems? Suggested changes?

V. (con't.)

B. What outside agents do you look to for evaluation of materials?
    Who would you like to perform this function for schools?

C. What system do you have to determine whether or not you are meeting teachers media needs?
    What system to discover problems teachers are having re media?

D. What are the most frequently used materials?
    Rationale? Trends? Your present-future plans?

E. Is your in-service training, if any, based on a rationale about use of media? Explain.

F. What influence has Federal funding had on use and acquisition of materials? What personnel have been most significantly influenced? (Board of Education, Superintendent, etc.)

G. What forces have greatest influence on teachers and their use of media? (In-service training, pre-service, other?)

VI. Requirements for Ideal Systems

A. What services would you like from OE to help you to improve dissemination and use of AV materials in schools?
    What role should OE play in dissemination of materials, e.g., what channels,functions, implications?

B. Would you speculate as to why or why not NAC will serve your needs? Provide details?

C. What are some of the significant trends in education today which will have an impact on use and dissemination of mate-
    (regionality)

D. If your could change your school, or school system in some way without restraint, what single, most important change would you like to bring about? Why?

Interview Schedule:
Curriculum Supervisor School System

I. Decision-Making: Planning

A. How do you go about developing curricula and what role does non-print material play?
Fund allocation, classroom services, relationships with teachers

II. Psychology of use of Non-Print Materials by Teachers

A. What is the key to a smoothly functioning classroom presentation? e.g., what problems do your teachers most frequently complain about?
B. What are the most frequently voiced complaints with regard to non-print materials? (malfunction, inappropriateness)

III. Teacher Preparation

A. What exposures to non-print materials is most often sought by teachers, e.g., in-service training, etc.
B. Which products
greatest impact in terms of increased or more effective use?
C. Generally in education, what kind of training is needed to produce more effective teachers? At what point in training, application sequences?

IV. Interface with USOE, SED, Universities, Professional Associations, Regional Labs, R&D Centers, NAC, Other Government Agencies

A. What kind of contacts do you have with each of the above?
B. What changes could each make in either services or materials to better meet your needs?

V. Requirements for an Ideal System

A. What is the single most significant change you would like to produce in classroom presentations?

B. If you could alter the school system to better serve the needs of teachers, of what would that change consist?

Interview Schedule
Principal School System

I. Overview (Demographic Data)

A. How are non-print materials being used in your school?
B. Problems? Trends (acquisition, use)

II. Personnel Roles

A. What individuals in the system are of most help to teachers in upgrading media use in the classroom?
(within your school, within the total system)
B. What agents throughout total educational community help meet teachers needs either in terms of materials or needed changes?

III. Requirements for Ideal System

A. What single changes would you like to make to affect teachers effectiveness in the classroom?
B. What change could the educational community implement to increase teacher effectiveness?
(May need to define educational community)
C. What parts of the educational community are falling down in supporting teachers?
D. What could OE do to help?
E. What do you see as the future role of media and technology in improving the instructional process?

Interview Schedule:

Superintendent: School System

I. Role of Non-Print Materials in the Classroom

- A. What in your estimation should the role of non-print materials be in the classroom?
  - How do your teachers use them presently, and how would you like them to be different in proportioning teaching materials and methods?
  - What would be a feasibly way to go about changing the present attitudes?
- B. To what personnel in you system do you relegate responsibility for purchase decisions? Is there any level or order size at which either you and/or the Board of Education are involved in the decision?
- C. What is nature of interactions between Board of Education, Superintendent, IMC, and Teachers?

II. Relationship of School System with Other Agencies

SDE, Universities, Regional Labs, R&D Centers, OE, Other Government Agencies, NAC, Professional Associations

- A. Does (each of the above) have any impact at the local school level in influencing change in education?
  - How? At what level? What is their ideal role?
- B. What are present contacts with OE - quality of relationship?
- C. What is the significance or impact of Federal funding on the acquisition of non-print materials?
  - Future budgetary trends? especially non-print materials?

III. Requirements for an Ideal System

- A. What is the single, most important change or innovation today which would be most helpful to your teachers?
  - Rationale
- B. What factor responsible for preventing this change or action from occurring?
- C. In the total educational community what agents or elements could most effectively bring about needed changes in education?

Interview Schedule: Industry

1. Background information
    - a. Products offered to schools
    - b. Services offered to schools
    - c. How do you define your audience? (Elementary, secondary, higher? Geographic limit? Special group in education? Public?
    - d. Number of people reached.
2. Market research
    - a. Pre-production
        1. How do you find out what is needed by education?
        2. Do you do your own market analysis or do you farm it out? Why?
        3. Research techniques
            - a. What types of market research do you do?
            - b. Do you carry on both market analysis (which might include geographic, demographic and financial research of the market) and "educational analysis" (trends in education, needs, opinions, biases among educators)?
            - c. What are the drawbacks and advantages of each type of research - motivational research vs. sales analysis?
            - d. What channels do you use to research the educator and who does the research?
                1. Staff people who are educators?
                   What is their background?
                   What is their objective?
                   How do they reach the user and what level of user?
                2. Educational consultants?
                   Brought in when? Who? Why?
                   Teachers or professors? How selected?
                   Frequency?
                3. Detail men
                   Whom do they contact in the school system? Why?
                   Do they use different approaches with different levels in the system?
                   What kind of feedback do they give you and how?

4. Other staff-market surveys
   How do you select your sample?
   What sorts of information do you seek? From whom?

b. How do you project what Education will need or buy?

c. How are educational consumers different from other consumers?

d. Research after production
   1. What kinds of marketing research do you do after production, as opposed to before the decision to produce a material?
   2. Are materials field tested? How?

e. Market conditions
   How do you assess the supply of competing products or services?

f. What are the greatest problems in researching the educational market?

g. Is there any problem in translating market research into product selection, dissemination technique, evaluation of program (company structure - mechanism)

3. Management of System
   a. How do you obtain new materials?
      1. Produce own
      2. Producers, authors come to you
      3. Survey R&D field
      4. Working relationships with universities and studies
   b. If materials procured elsewhere who directs that operation?
   c. If an R&D operation is used, who staffs it, determines policy (media people, educators, business men, etc.)

4. Marketing
   a. Describe distribution arrangement-
      1. Direct mail
      2. Catalogue
      3. Advertising media
      4. Word of mouth
      5. Detail men/consultants
      6. Conventions

      How function?
      Which is most useful?
      Which is most profitable?
      Cost/benefit?
      Problems?
      Level of market informed?

   Are you centralized or regionally organized?
   Are all materials and services offered by same system or is it specialized? (i.e., sales, service or film, books, tapes and consultation, etc.)

Describe interplay of materials and services offered.
Do you offer whole systems? Do they sell?
How do you get your product to the purchaser?
Mail order/ Dealer/ why not?

b. Cataloging and indexing
   1. How do you organize materials for distribution?
   2. Do you do any market research on cataloging and indexing (on the best format to use, etc.)?
   3. What would you think of being part of a comprehensive information source - like Listfax or NICEM?

c. In marketing to schools, who are the key school people you deal with? Why?

5. Evaluation and Feedback
   a. How do you evaluate your dissemination or marketing effort?
   b. Are all lines profitable or do you offer one to assure sales or service for another (i.e., software, hardware)?
   c. Do you have a feedback or evaluation program? describe?
   d. Are you satisfied with your dissemination or distribution system?

6. Marketing Success factors
   a. What are the most important factors in successful marketing to schools?
   b. Who are the best customers (i.e., libraries, schools, individuals)?

7. Marketing problems
   a. What are the greatest problems non-book industries face in marketing to schools? Solutions?

8. Interfaces
   a. What role do State Departments of Education play in your marketing effort?
   b. Do you use any government sponsored materials?
   c. Would they constitute competition?
   d. Would they be useful to you if you knew them?
   e. Feelings about copyright - Patent situation?
      Do you favor public domain, limited copyright, or full copyright on government sponsored materials?
      How would you change copyright legislation or government procedure on copyright?

9. Training
   a. In-service in industry?
   b. In-service by industry in schools?
   c. Training own dissemination personnel?

10. Futures

What is the direction of Educational technology and AV?

What will it buy?

How does the expenditure cycle look?

What services might industry be marketing in the future?

1. Teacher training
2. Consultant services
3. Total Educational systems planning? Would it be accepted?

Future trends in market research-techniques? information sought?

Overall impression of direction of the market, of user attitudes.

1. Are educators expressing their needs to you? Do they know how? What should their role be in R&D?
2. What is education's attitude to AV materials now?
3. What are educators' needs in AV materials and equipment? - boiled down.

Interview Schedule

University Resource Center

I. Overview

A. Developmental History of Facility
B. Relationships of facility to remainder of University
C. (School of Education, faculty and students, public schools, library and library science program)
C. Course Work or Offerings
D. View or Role of Dissemination and Non-Print materials in a university setting.
E. Relationship of Dissemination and Mission of Facility.

II. Acquisition and/or Collection of Materials
(Industry, SDE, OE, Professional Associations, Universities, Other Government Agencies, Regional Labs, R&D Centers, SEIMC)

A. What sources of materials are available to you and used most frequently, least, why?
B. What are the relationships between personnel and these sources?
Quality?
C. How do these sources satisfy your needs? Not?
D. What could they do to better meet your needs?
E. Which of all sources open to you do you rely on?

III. Dissemination: (Catalogues, In-Service Training, Other)

A. What are main requirements for information about materials?
B. What are the primary sources of contact you have with users to inform them of materials available or to encourage them to use materials?
Describe each system in development rationale, relative effectiveness
B. How would you like to change each to better meet user's needs?
C. What problems if any, do you have in getting materials to the user?

IV. Production

A. Do you produce any materials here at the IMC?
How started and why? Problems?
B. Do your teachers produce materials?
System to handle and reproduce?
C. Have any problems emerged in the production or reproduction of materials due to copyright regulation or policy? Suggestions?

V. Evaluation

A. What system do you have for evaluating the materials to be entered into your system for dissemination?
   Process? Problems? Suggested changes?

B. What outside agents do you look to for evaluation of materials?
   Who would you like to perform this function for schools?

C. What system do you have to determine whether or not you are meeting user's media needs?
   System to discover problems teachers are having re: media

D. What are the most frequently used materials?
   Rationale? Trends? Your present-future plans?

E. Is your in-service training, if any, based on a rationale about use of media? Explain.

F. What influence has Federal funding had on use and acquisition of materials? What personnel have been most significantly influenced? (Board of Education, Superintendent, etc.)

G. What forces have greatest influence on teachers and their use of media?
   (in-service training, pre-service? other)

VI. Requirements for Ideal Systems

A. What services would you like from OE to help you to improve dissemination and use of AV materials in schools?
   What role should OE play in dissemination of materials, e.g., what channels, function, implications?

B. Would you speculate as to why or why not NAC will serve your needs? Provide details

C. What are some of the significant trends in education today which will have an impact on use and dissemiantion of materials? (Regionality)

D. If you could change your school or school system in some way without restraints, what single, most important change would you like to bring about? Why?

Interview Schedule:

Schools of Education

I. Overview:

A. Developmental history of AV materials and communication within faculty.
B. How interviewee perceives the relationship of dissemination to accomplishment of goals of School of Education.
C. Role of non-print materials in the Education process.

II. Pre-Service Training:

A. What undergraduate course(s) in the use of non-print media are offered to students?
  Are any of these courses required?
B. Are there any undergraduate courses offered that deal with the theoretical aspects of communication through non-book media?
C. Do courses dealing with teaching methods or areas of subject matter make use of non-book materials without dealing with them specifically, i.e., are tapes and films used in demonstrations as ways of teaching reading or history without dwelling on how to show a film or thread a tape recorder.
D. Describe the program which this institution offers its undergraduates on any theories behind the use of media as well as practical applications in the classroom of non-print materials.
  What are chief ideas or techniques hopefully imparted to students?
  What methods are used in teaching these courses?
E. Has your program had any particular models or precedents?
  What other programs around the country do you think of as particularly successful in this area?
F. What led to the decision to set up this training program?
G. How did you go about selecting the particular training method you are now employing?

III. In-Service Training:

A. Describe any in-service training programs in the use or theory of use of non-book media? Who takes the courses?
  Are any required by local school systems or by the State Department of Education as pre-requisite to certification?
B. Do teachers involved in in-service training receive information and learn techniques on the use of these materials in other courses required for certification?
C. What are the chief ideas and techniques being taught?
  What are the teaching methods employed?
D. Does this in-service program have any precedents on which it was modeled?
E. What other successful in-service programs are you familiar with?

Schools of Education

IV. Graduate Training of Specialists

A. What are the *requisites* leading to the *Masters* Degree as an audiovisual specialist? *Doctoral* Degree?
B. *How long* has this program been offered? What were the *precipitating causes* in your instituting this course of study?
C. What is the *background* of your *degree candidates*?
D. What *methods* are used in *training* them?
E. What, if any, are the *precedents* for this graduate program?
F. What *other graduate programs* that you are familiar with do you think are particularly effective?
G. What are the *thesis topics* currently being pursued by your graduate students?
H. Have you noticed any trends in interest areas of students?

Bibliography

Alan, Michael. "The Teacher Who Never Gets Angry." Parade, February 2, 1969, pp. 16-17.

American Library Association. Guide to Newer Educational Media. Chicago: American Library Association, 1967.

American Library Association/National Education Association. Quantitative Standards for School Media Programs, Personnel, Equipment, and Materials for Elementary and Secondary Schools. Manuscript copy. June 1968.

"The Audiovisual Department Comes of Age." American School and University. (February 1968)

Audiovisual Instruction, the editors. DAVI Guide to New Products. Special Issue, Audiovisual Instruction, September 1968.

Blaschke, Charles and Randall, Ronald. "Educational Technology: Economics, Management, and Public Policy." Educational Technology, Vol. 8, No.12 (June 30, 1968), pp. 5-13.

Bloodworth, Mickey. Highlights of Schools Using Educational Media. Washington, D. C.: Department of Audiovisual Instruction, NEA, 1968.

Boocock, Sarane S. "Technology and Educational Structure." Educational Technology, Vol. 9, No. 1 (January 1969), pp. 19-21.

Booz, Allen, and Hamilton, Inc., comps. The Instruction Market. Research Report. (No Date)

Bouchard, Ruth A., and Mackler, Bernard. A Pre-Kindergarten Program for Four-Year-Olds with a Review of Literature on Pre-School Education. New York: The Center for Urban Education, 1968.

R.R. Bowker Company. Audiovisual Market Place. New York: R.R. Bowker Company, 1968.

Brown, James W.; Lewis, Richard B.; Harcleroad, Fred F. AV Instruction: Media and Methods. New York: McGraw-Hill, Inc., 1969.

Brown, James W. "The New Joint Standards: Implication for Manpower." Audiovisual Instruction, Vol. 14, No. 1 (January 1969), pp.31-33.

California State Department of Education. Guidelines to Audiovisual Cataloguing by Means of Data Processing. Sacramento, Calif.: California State Department of Education, 1966.

Carter, Launor F. "Knowledge Production and Utilization in Contemporary Organizations." Paper presented at the University of Oregon UCEA Career Development Seminar, Portland, Oregon. Santa Monica, Calif.: Systems Development Corporation, October 1967.

Carter, Launor F.; Cantley, Gordon; Rowell, John T.; Schultz, Louise; Seiden, Herbert R.; Wallace, Everett; Watson, Richard; Wyllys, Ronald. *National Document-Handling Systems for Science and Technology*. Santa Monica, Calif.: Systems Development Corporation, 1967.

Center for Urban Education. *Educational Park Development in the United States, 1967*. A Survey of Current Development Plans. Report A004. New York: Center for Urban Education, August 1967.

Center for Urban Education. *Educational TV and Audiovisual Teacher Training Program for Title I Board of Education Teachers of Disadvantaged Pupils in Nonpublic Schools*. Report A032. New York: Center for Urban Education, 1967.

Center for Urban Education. *The Uses of Television and Their Educational Implications: Preliminary Findings from a Survey of Adult and Adolescent New York Television Viewers*. Report A060, New York: Center for Urban Education, 1968.

Citation Press. *Planning and Effecting Needed Changes in Education*. Vol. III of the series, *Designing Education for the Future*. Englewood Cliffs, N. J.: Citation Press, 1968.

Citation Press. *Propective Changes in Society by 1980.* Vol. I of the series, *Designing Education for the Future*. Englewood Cliffs, N.J.: Citation Press, 1968.

"A Copier That Copies in Color." *Business Week,* No. 2044, November 2, 1968, p. 117.

"The Cost of Audiovisual Instruction." *School Management*, June, 1964.

"The Cost of Audiovisual Instruction." *School Management*, June, 1966.

"Cost of Education Index,1967-1968." *School Management*, July, 1968.

Cote, Henry F. "A Mobile Media Center." *Audiovisual Instruction,* Vol. 13, No. 7 (September 1968), pp. 724-725.

Davis, Richard A., and Bailey, Catherine. *Bibliography of Use Studies.* Philadelphia, Pa.: Drexel Institute Graduate School, 1964.

DeBernardis, A.; Doherty, V.; Hummel, E.; and Brubaker, C. *Planning Schools for New Media: A Guide for Boards of Education, School Administrators, and Architects*. (HEW OE 21021.) Washington, D.C.: U.S. Government Printing Office, 1962.

Department of Audiovisual Instruction, NEA. "Manpower and Instructional Media: A Study of Jobs, Personnel, and Training." Abstract of project proposal, Washington, D. C.: DAVI/NEA, April 16, 1968.

Department of Audiovisual Instruction, NEA. Membership Directory and Data Book, 1968-1969. Washington, D. C.: DAVI/NEA, 1968.

Department of Audiovisual Instruction, NEA. National Standards for School Media. Washington, D. C.: DAVI/NEA, 1968.

Department of Audiovisual Instruction, NEA. A Survey of Instructional Closed-Circuit Television 1967. Washington, D. C.: DAVI/NEA, 1967.

Diamond, Robert M. "A Search and Retrieval System for Media Periodicals." Audiovisual Instruction, Vol 14, No. 1 (January 1969), pp. 66-68 .

Diamond, Robert and Grattan, Berta. A Storage and Retrieval System for Documents in Instructional Resources. Report #13. (ED 018 116) Washington, D.C.: U. S. Office of Education, ERIC, July, 1965.

Doud, Bobbie (Office of Information, USOE), comp. Publications of the U. S. Office of Education, 1967. (HEW OE 11000E.) Washington, D.C.: U.S. Government Printing Office, 1967.

Educator's Guide to Media and Methods. Periodical - Special issue. Vol. 5, No. 5 (January 1969).

Educational Media Council, Inc. Sources of Information on Educational Media. Washington, D.C.: U.S. Government Printing Office, 1968.

"Educational Technology Project for Science Teachers." Educational Technology, Vol. 8, No. 21 (November 15, 1968), inside cover.

Educators Progress Service. Educators Guide to Free Film. 1968 ed. Randolph, Wisc.: Educators Progress Service, 1967.

Ely, Donald P., ed. The Changing Role of the Audiovisual Process in Education: A Definition and a Glossary of Related Terms. TDP Monograph No.1 AV Communication Review, Supplement 6 (January-February 1963).

Ely, Donald P. "Consortium in Educational Media and Technology." Educational Technology, Vol. 9, No. 1 (January 1969), p.33.

Erickson, C.W.H. "The Making of New School Media Specialists - From the Audiovisual Point of View." Audiovisual Instruction, Vol. 15, No. 1 (January 1969), p. 14.

Eriksson, Bo (Gothenburg University, Sweden, Institute of Education). Planning and Construction of a University Course in Educational Technology. (ED 019 113.) Washington, D.C.: U.S. Office of Education, ERIC, 1968.

Fairweather, George W. Methods for Experimental Social Innovation. Riverside, N.J.: Behavioral Science Book Service, 1968.

Fantini, Mario, and Weinstein, Gerald. Toward a Contact Curriculum. New York: Anti-Defamation League of B'nai B'rith, 1968.

Field, F. Bernice. "New Cataloguing: The General Principles and the Major Changes." Reprint from Library Resources and Technical Services. Chicago: American Library Association Publishing Department, 1964.

Finn, James D. Studies in the Growth of Instruction of Instructional Technology, 1: Audiovisual Instrumentation for Instruction in the Public Schools, 1930-1960. TDP Occasional Paper No. 6. Washington, D.C.: DAVI/NEA, 1968.

Gagne, R. Conditions of Learning. New York: Holt, Rinehart, and Winston, 1968.

Gertler, Diane P. Preprimary Enrollment of Children Under Six. (HEW OE 201113.) Washington, D.C.: U.S. Government Printing Office, 1968.

Gibson, James. "A New Film Center for the Federal Government." Paper presented at University Film Association Annual Conference, University of Denver, Denver, Colorado, August 18-24, 1968. Washington, D.C.: National Archives and Records Service, GSA, 1968.

Gibson, James. "Audiovisual Activities in Federal Agencies." A position paper. Washington, D.C.: National Archives and Records Service, GSA, October 1967.

Gibson, Terry L. "Instructional Systems Design Through In-service Education." Audiovisual Instruction, Vol 13, No. 7 (September 1968), pp. 710-713.

Godfrey, Eleanor P. The State of Audiovisual Technology, 1961-1966. Monograph No. 3. Washington, D.C.: DAVI/NEA, 1968.

Good, Carter V., ed. Dictionary of Education. New York: McGraw-Hill, Inc., 1959.

Grady, Bill F. "The Preparation and Certification of Educational Media Personnel." Audiovisual Instruction, Vol. 14, No. 1 (January 1969), pp. 29-30.

Green,Alan C., ed. Educational Facilities with New Media. Prepared at Troy, New York, RPI Center for Architectural Research. Washington, D.C.: DAVI/NEA, 1966.

Gross, Morris. Learning Readiness in Two Jewish Groups: A Study in "Cultural Deprivation." New York: Center for Urban Education, 1968.

"Growth of Audiovisual Aids." Financial World, October 23, 1968, p. 37.

Hayes, Alfred S. New Media for Instruction: Language Laboratory Facilities. (HEW OE 21024.) Report No. 37. Washington, D.C.: U.S. Government Printing Office, 1963.

Hendershot, Dr. Carl, comp. Programmed Learning: A Bibliography of Programs and Presentation Devices. 4th ed. Distributed by the compiler, 4114 Ridgewood Drive, Bay City, Michigan 48707, 1968.

Hoban, Charles F. "Man, Ritual, the Establishment, and Instructional Technology." Educational Technology, Vol. 8, No. 20 (October 1968), pp. 5-11.

Hope, Thomas A. "Market Review: Non-Theatrical Film and Audiovisual, 1966." Journal of the SMPTE (December 1967).

Humphrey, John H. "A New Dimension in Materials of Instruction." Educational Technology, Vol. 7, No. 10 (July 30, 1967).

Hutchings, Edward and Elizabeth, eds. Scientific Progress and Human Values. Proceedings of the Conference Celebrating the 75th Anniversary of the California Institute of Technology in Pasadena, California, October 25-27, 1966. New York: American Elsevier Publishing Company, Inc., 1967.

IDEA (Information Office). The Challenge of Technology. Melbourne, Florida: IDEA, 1968.

Ingham, G.E. "Preservice Media Training." Audiovisual Instruction, Vol. 14, No. 1 (January 1969), pp. 55-59.

"Instructional Resources in the Classroom." Audiovisual Instruction, (March 1968).

Jantsch, Erich. Technological Forecasting in Perspective. Washington, D.C.: Organization for Economic Cooperation and Development Publications Center, 1968.

Joyce, Bruce R. Man, Media and Machines. Washington, D. C.: NEA, 1967.

Judson, Jerome. "The System Really Isn't Working." Life, November 1, 1968, pp. 70ff.

Kent, Allen, and Lancour, Harold, eds. Encyclopedia of Library and Information Science. New York: Marcel Dekker, Inc., 1968.

Kinney, Jack A. The Government Instructional Market. Research Report. New York and Washington, D.C.: Arthur D. Little, Inc., May 1968.

Knight, Melvin E., and Smith, Dennis L. "Teaching the Effective Use of Media." Educational Technology, Vol. 9, No. 1 (January 1969), pp. 29-30.

Kurland, Norman D. "The Impact of Technology on Education." Educational Technology, Vol. 8, No. 20 (October 1968), pp. 12-15.

Larson, L.C. "Developing a Graduate Program to Train Instructional Design and Media Specialists." Audiovisual Instruction, Vol. 14, No. 1, (January 1969), pp. 20-24.

Leni, Jules. Report on the International Meeting of Experts on the Application of Electronic Methods to the Cataloguing of Films and Television Programmes. Proceedings of a conference held in Paris, France, 1968.

Library of Congress. Rules for Descriptive Cataloguing in the Library of Congress - Motion Pictures and Filmstrips. 1st ed. Washington, D.C.: U.S. Government Printing Office, 1965.

Library of Congress Copyright Office. Motion Pictures and Filmstrips, July-December 1967. Catalog of Copyright Entries: Third Series. Vol. 21, Parts 12-13, No. 2. Washington, D.C.: U.S. Government Printing Office, 1968.

Lin, Nan. Innovative Methods for Studying Innovation in Education and an Illustrative Analysis of Structural Effects on Innovation Diffusion Within Schools. Report of project conducted at Johns Hopkins University, Baltimore, Maryland, March 1968.

Lin, Nan. Study of Communication of New Ideas in Organizational Structures - The Ministry of Education in Thailand. Report of project conducted at Johns Hopkins University, Baltimore, Maryland, March 1968.

Arthur D. Little, Inc. The Market Outlook for Instructional Technology. New York: Arthur D. Little, Inc., October 1968.

McBride, Otis. "Learning Through Media in the Library." Audiovisual Instruction. Vol. 14, No. 1 (January 1969), p. 69.

McGraw-Hill, Inc. National Information Center for Educational Media, Index to 16mm Educational Films. New York: McGraw-Hill, Inc., 1968.

McGraw-Hill, Inc. Index to 35mm Educational Filmstrips. New York: McGraw Hill, Inc., 1968.

McGraw-Hill, Inc. The Public School Market for Audiovisual Products in 1967-68. Chicago: McGraw-Hill, Inc., 1968.

McMurry, Glen D. (chief investigator). Producer's Input Guide. Southern California Automated Cataloguing Project. Department of Health, Education, and Welfare, U.S. Office of Education, Contract C-4-16-031, NDEA Title III and Title VII, 1968.

ley, Dwight C. The Market Outlook for Instructional Technology, 1966. Service to Management Program. Washington, D.C.: Arthur D. Little, Inc., Business Research Office, October 1966.

MARC Distribution Service to Start Early in 1969." Scientific Information Notes, Vol. 10, Nos. 5-6 (October-November-December, 1968), P. 10.

Mack A. Word-Picture Relationships in Audiovisual Presentation. (HEW OE 5-16-006.) Washington, D. C.: U.S. Government Printing Office, July 1965.

y, J.W. "Networks for Knowledge." Audiovisual Instruction, Vol. 14, No. 1 (January 1969), pp. 36-37.

rhenry, W.C. "Media Competencies for Teachers." Audiovisual Instruction, Vol. 14, No. 1 (January 1969), pp. 36-37.

ill, Lynch, Pierce, Fenner and Smith. Emerging Industries. New York: Merrill, Lynch, Pierce, Fenner, and Smith, 1968.

stad, John. "Selected Summaries of Research Studies Including New Educational Media." Educational Technology, Vol. 8, No. 16 (August 30, 1968), pp. 20-21.

stad, John, ed. Sources of Information on Educational Media. (HEW OE 34024.) Bulletin #2, Washington, D.C.: U.S. Government Printing Office, 1963.

gomery County Public Schools. Approved Instructional Materials for Secondary Schools. Rockville, Maryland: Montgomery County Public Schools, 1968.

gomery County Public Schools. Review and Evaluation Procedures for Textbooks and Instructional Materials. Rockville, Maryland: Montgomery County Public Schools, 1968.

gomery County Public Schools. Annual Report of the Department of Instructional Materials, 1967-1968. Rockville, Maryland: Montgomery County Public Schools, 1968.

onal Archives and Records Service, GSA. Directory of Key Government Personnel in Radio, TV, Motion Pictures, Photography, Exhibits, Sound Recordings, and Graphic Arts. Washington, D.C.: NARS/GSA, July 1968.

onal Archives and Records Service, GSA. United States Government Organization Manual. Washington, D.C.: U.S. Government Printing Office, 1967.

ional Archives Unit is Designated Audiovisual Outlet." Higher Education and National Affairs, Vol. 17, No. 39 (November 15, 1968), p.5.

National Association for Retarded Children, AV Committee. Audiovisual Material on Mental Retardation. National Association for Retarded Children, July 1965.

National Audiovisual Association (NAVA). Audiovisual Equipment Directory. Fairfax, Virginia: NAVA, 1968.

National Audiovisual Association. 1966 Survey of Educational Materials, Producers' Sales. Fairfax, Va.: NAVA, 1967.

National Center for Educational Statistics, HEW. Higher Education, 1968-1969. Part 3, Education Directory. (OE 5000-69.) Washington, D.C.: U. S. Office of Education, 1968.

National Center for Educational Statistics. Handbook of Terminology About Curriculum and Instruction. Washington, D.C.: U.S. Office of Education. Draft copy, 1968.

National Center for Educational Statistics, HEW. Projections of Educational Statistics, 1975-1976. (HEW OE 10030-66.) Washington, D.C.: U.S. Government Printing Office, 1966.

National Center for Educational Statistics, HEW. Public School Systems, 1968-1969. Part 2, Education Directory. (HEW OE 20005-69.) Washington, D.C.: U. S. Government Printing Office, 1968.

National Education Association Publications Division. Catalog of Publications and Audiovisual Materials 1968-1969. Washington, D.C.: NEA, June 1968.

National Education Association, Research Division. Estimates of School Statistics, 1967-1968. Research Report R19. Washington, D.C.: NEA Research Division, 1967.

National Education Association. "Instructional Resources in the Classroom." (Based on data from NEA Research Bulletin 45: 75-77, October 1967.) Audiovisual Instruction, Vol. 13, No. 3 (March 1968), pp. 284-285.

National Education Association. Rankings of the States, 1968. Research Report 1968 - R1. Washington, D.C.: NEA Research Division, 1968.

National Education Association. Selected Statistics of Local School Systems, 1966-1967. Research Report 1968 - R11. Washington, D.C.: NEA, 1968.

National Education Association. Standards of Performance Report: Evaluation of Effectiveness. Washington, D.C.: NEA. (Draft of technical report to be released January 1969.) .

The New England Education Data Systems. Cybernetics and Education: A Colloquium. Cambridge, Mass: NEEDS, 1968.

The New England Education Data Systems. Some Essays on Computers in Education. Cambridge, Mass.: NEEDS, 1968.

The New England School Development Council. What Does a School Librarian Do? Revised ed. Cambridge, Mass.: The New England School Development Council, 1967.

"New Equipment and Materials." Educational Technology, Vol. 8, No. 18 (September 30, 1968), p. 4.

"Office Copier That Duplicates Color is Put on Market by Minnesota Mining." ("News Briefs.") Business Week, October 26, 1968, p. 44.

Patterson, Oscar F. "University Film Distributors: A New Concept for Resource Sharing." Audiovisual Instruction, Vol. 13, No. 10 (December 1968), pp. 1074-1077.

Payzant, Thomas. Approaches to the Analysis of School Costs: An Introduction. Cambridge, Mass.: The New England School Development Council, 1967. (Booklet).

Pettigrew, Thomas F. Negro American Intelligence. New York: Anti-Defamation League of B'nai B'rith, 1968.

Predicast, Economics Index, and Survey, Inc. Trends 1967, Educational Technology #5. Cleveland, Ohio: Predicast, Economics Index, and Surveys, Inc., 1967.

Pula, F. S. "Teacher Education and Media: We're Winning the Battle?" Audiovisual Instruction, Vol. 14, No. 1 (January 1969), pp. 72-73.

Quattlebaum, Marguerite, ed. Subject Headings Used in Dictionary Catalogs of the Library of Congress. 7th ed. Washington, D.C.: U. S. Government Printing Office, 1966.

Randolph, Helen, comp. Urban Education Bibliography. New York: Center for Urban Education, 1968.

Rees, David J. (State Education Department of New York). "The Regional Instructional Media Center in 1966-1967." (A report of a national study of the regional instructional media center which was completed in June 1968.) Paper presented at the Communications Convocation (a DAVI Regional Conference), Grossinger's, New York, November 1968.

Reid, J. Christopher, and MacLennan, Donald W. Research in Instructional Television and Film. Prepared by Bureau of Research, U.S. Office of Education. Washington, D.C.: U.S. Government Printing Office.

Riessman, Frank. Blueprint for the Disadvantaged. New York: Anti-Defamation League of B'nai B'rith, 1968.

San Francisco State College School of Creative Arts. *Education and Technology in the 21st Century.* Proceedings of a symposium directed by Waldemar Johansen, chairman of the School of Creative Arts and published as a class project. Paperback. San Francisco: San Francisco State College, 1968.

School Purchasing Decision Patterns, 1968. Industrial Publishers' Research for *School Product News*. Cleveland, Ohio: *School Product News*, 1968.

Schramm, Wilbur. *The Educational Media and National Development.* (HEW OE ERIC DO 17188.) Washington, D.C.: U. S. Office of Education, 1968.

Segley, S. K. "The Making of New School Media Specialists - From Library Point of View." *Audiovisual Instruction*, Vol. 14, No. 1 (January 1969), pp. 15-19.

E. F. Shelley and Co., Inc. *Management Information System Design*. New York: E. F. Shelley and Co. Inc., October 1968.

Silvern, Leonard. *Systems Engineering of Education I: The Evolution of Systems Thinking in Education*. Los Angeles: Education Training Consultants Co., 1968.

Simon, Kenneth A., and Grant W. Vance. *Digest of Educational Statistics.* 1968 ed. (HEW OE 10024-68.) Washington, D.C.: U.S. Government Printing Office, 1968.

Smith, Louis M., and Keith, Pat M. "Fantasy and Reality in the Language of the New Technology." *Educational Technology*, Vol. 8, No. 24 (December 15, 1968.), pp. 5-10.

Spalding, C. Sumner, general ed. *Anglo-American Cataloguing Rules*. Chicago: American Library Association, 1967.

Stolurow, Lawrence M. "What is Computer-Assisted Instruction?" *Educational Technology*, Vol. 8, No. 13 (July 15, 1968.), pp. 10-11.

Streeter, C. Edward. "Media Technology in Teacher Education." *Educational Technology*, Vol. 8, No. 13 (July 15, 1968.), pp. 19-21 .

Streeter, C. Edward. "Teacher Competency and Classroom Use of Educational Media." *Audiovisual Instruction*, Vol. 14, No. 1 (January 1969), pp. 60-62.

Swanson, Don. *Requirements Study for Future Catalogs*. Progress Report #2. Chicago: University of Chicago, 1968.

Tanzman, Jack. "ESEA: Three Ways to Make Your AV Know-How Count." *Audiovisual Instruction,* Vol. 11, No. 10 (December 1966), p. 797.

Tauber, Maurice, and Hines, Theodore C. "Technical Services for the Department of Instruction Materials of the Montgomery County Public Schools." Paper presented at a one-day conference for school administrators at Syracuse University, April 21, 1967.

Thomas, J. Alan. "Educational Decision-Making and the School Budget." Administrator's Notebook, Vol. 12 (December 1966.).

Trenholme, A.K. "The New National Standards for School Media Programs: A Great Step Forward." Audiovisual Instruction, Vol. 13, No. 7 (September 1968), pp. 697-699.

Tumin, Melvin M., ed. Race and Intelligence. New York: Anti-Defamation League of B'nai B'rith, 1968.

United States of America Standards Institute. U.S.A. Standard Basic Criteria for Indexes. New York: United States of America Standards Institute, 1968.

United States Information Agency. Circulation of Visual and Auditory Materials of an Educational, Scientific, and Cultural Character. ("The Beirut Agreement.") Washington, D.C.: USIA, 1967. Draft copy.

U.S. Office of Education, Bureau of Research. DAVI Media Survey: A Plan for the Systematic and Continual Identification of Schools In The U.S. Making Significant Use of Educational Media in Their Instructional Programs. Project supervisor, Anna L. Hyer. Washington, D.C.: HEW/OE/BR, 1967.

U.S. Office of Education, HEW. Thesaurus of ERIC Descriptors. Washington, D.C.: HEW/OE, June 1966.

Unwin, Derick. "New Media at a New University." Educational Technology, Vol. 9, No. 1 (January 1969), pp. 25-26.

Van Ness, Robert G. Principles of Data Processing with Computers. Elmhurst, Ill.: The Business Press, 1966.

Van Palen, Deobold B. Understanding Educational Research. New York: McGraw-Hill, Inc., 1962.

Vento, Charles J. "A Media Distribution System of the Future." Audiovisual Instruction, Vol. 13, No. 10 (December 1968), pp. 1078-1081.

Wall Street Journal (staff). Here Comes Tomorrow. Princeton, N.J.: Dow Jones Books, 1967.

Weisgerber, Robert A., ed. Instructional Process and Media Innovation. Chicago; Rand McNally and Co., 1968.

Westby, Barbara M., ed. Sears List of Subject Headings. 9th ed., New York: H.W. Wilson Company, 1966.

Who's Who in American Education, Inc. Who's Who in American Education. Hattiesburg, Miss.: Who's Who in American Education, Inc., 1968 ed.

Wigren, Harold. "The Effects of Communications Media in Education in Nova Scotia." Paper presented to the International Conference on Communications Media in Education, Nova Scotia, September 1968.

Wyman, Raymond. "The Feasibility of Distributing Locally-Produced Overhead Projection Masters." Audiovisual Instruction, Vol. 12, No. 4 (April 1967).

Young, E.H., coll. Audiovisual Equipment and Materials - A Guide to Sources of Information and Market Trends. 1st draft. Washington, D.C.: U.S. Department of Commerce, December 30, 1968.